FEBRUARY 1951

Universities Quarterly

VOLUME 5 NUMBER 2

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SUBSCRIPTION, ADVERTISEMENT, PUBLISHING, &c.:

PRICE Five Shillings per issue. POSTAL SUBSCRIPTION to any address or through any newsagent One Pound Yearly.

Correspondence relating to subscriptions, advertisements, etc., should be addressed to the Publisher.

TURNSTILE PRESS LIMITED
10 Great Turnstile, London, W.C.1.
HOLBORN 8471

UNIVERSITIES QUARTERLY

VOL. 5. No. 2. FEBRUARY, 1951

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UNIVERSITIES QUARTERLY

NOTES

Higher Education in the U.S.A.

In a penetrating review of the development of higher education in the U.S.A. in the last hundred years, published in the *Annual Report for* 1949–50 *of the Carnegie Foundation for the Advancement of Teaching*, Dr. Oliver Carmichael has a good deal to say that throws light upon contemporary problems in university education over here.

The expansion of student numbers in the United States (they almost doubled in the decade 1920–30) has emphasized some deficiencies in the basic education given to undergraduates during their first two years in college. There, as here, the proper achievement of general education is largely affected by tradition, by the vested interests of departments and by the failure of faculties to provide an effective common core of knowledge for all students before they begin concentration in some one field.

The experiment now being tried in several British universities of inviting distinguished lecturers to talk on subjects of general or cultural interest every fortnight or so throughout the academic year, with no rival lectures or labs. going on at the same time, is a significant development. But its significance must not be exaggerated. We have not as yet thought out with enough precision the objectives at which we are aiming. And the fact has to be borne in mind that the indispensable minimum of specialized knowledge which a student must acquire before he deserves to graduate is increasing faster and faster year by year in many subjects. The continued thought being given in the United States to the whole problem of general education, in both undergraduate and graduate years, is an example to us.

An Anglo-American University Commission?

In the last paragraph of his essay Mr. Carmichael says that "the great concern in both Great Britain and the United States over the lack of direction and purpose in university education suggests the possible wisdom of an Anglo-American effort to

formulate objectives. A commission set up for that purpose might render a great service to the cause of higher education." If such a commission were kept small and drew on the thought of well-chosen inter-university groups, it might do good work. Its most valuable contribution might well prove to be not its final report but the leaven of thought which the groups themselves set working.

The universities and Services' education

The current issue of " Army Education " contains an article by Brigadier Pidsley entitled " Quality in Army Education." Brigadier Pidsley is the Director of Army Education, and in his article he quotes, in support of his plea for work of high quality, the Vice-Chancellor of Reading University, who is Chairman of the Army Education Advisory Council. The citing of Mr. Wolfenden by Brigadier Pidsley is a reminder that since the end of 1948 most of the universities in the United Kingdom have accepted responsibility for the provision, through their extra-mural departments, of civilian aid to education in the Army and the other armed Services.

It is too soon for a permanent pattern of work to have been established, but not too soon for the universities, as well as the Directorate of Army Education, to have given close attention to the problem of quality in the work they undertake. The determination of appropriate standards is difficult in all extra-mural work. When the teaching is carried on under the conditions of service life, new difficulties are met. The chief ones at present appear to be that of securing continuous attendance, and that of securing suitable teaching staff under the financial conditions at present prevailing. In large centres it has been possible to concentrate the work of university teachers on soldiers already possessing a fairly high standard of education, such as Higher School Certificate or similar qualifications. With goodwill on the part of commanding officers, these men often are able to attend regularly throughout their stay in the units. When, however, they are posted to smaller units, or to overseas stations, it has not hitherto proved easy to enable them to keep up their studies, although in many ways better facilities for continuous work exist in some overseas commands than at home.

The financial problem arises from the fact that so far funds are only available on a year-to-year basis and not on the quinquennial basis which prevails in the case of most university work. The result is that candidates for posts, and not infrequently holders of

posts, feel uncertain as to the amount of security they will have, and this makes it difficult to obtain and retain teachers of first-rate quality.

If steps can be taken to ensure more opportunities for continuous study, and to provide for lecturers the same prospects as in other branches of university work, the hope of improving the quality of general education during National Service may be fulfilled; but not otherwise.

Lecturers and lecturing

Since so much of the teaching in the universities is done by means of the lecture, it is plainly of some importance that those who teach should know something of the technique of lecturing. We hope in a future issue of the *Universities Quarterly* to publish accounts of experiments in the training of junior lecturers at the University of Nottingham and in Canada, and we should be glad to hear of such experiments elsewhere. The problem is not a simple one. We can most of us remember lecturers who were remarkably effective, exercising a deep and permanent influence upon their hearers, but whose performances were full of technical faults; and in a curious way these faults—mannerisms, odd turns of speech, even slight impediments—contributed to the total effect and were thus transformed into excellences. It is above all important, not only that the lecturer should have something to say, but that he should be seen to have something to say: that he should communicate to his hearers something of the passion and delight he experienced himself when he was thinking out for himself what he is now saying to his audience. This, while it suggests there are certain limits beyond which technical training in lecturing must be ineffective, suggests also that there is good reason for teaching the young lecturer how he may most readily become audible and intelligible without interrupting the flow of his thought.

The philosophy of science

The new *British Journal of the Philosophy of Science*, whose third quarterly issue has just appeared, should come to fill an awkward gap in our periodical literature. It is addressed primarily to scientists, and is to publish articles concerned with the logic and method of science in general, and in particular to examine " in the light of wider philosophical considerations " problems arising in the methodology of the various inductive sciences (including social

sciences). There is general agreement about the need for a greater awareness among scientists of the logical status of scientific method, in view of the great importance now attached to scientific thought and of the influence wielded by those trained in its techniques. If the new journal can bring together scientists and philosophers in a co-operative approach to these problems, it will have an important function. It claims to be the mouthpiece of no particular doctrine, and its impartiality, in a field where the deep divisions of our civilization are no less evident than elsewhere, should be ensured by the extremely diverse set of distinguished men who form its editorial board.

The articles so far published cover a fairly wide range both of topics and of opinions; the social sciences are least in evidence. The format is pleasant and the documentation and editing are well done. The main deficiencies are a certain philosophical impetuosity in some of the articles, and a lack of articles by professional philosophers—many of whom, after all, have something to teach those interested in the foundations of scientific thought. The work of scientists who are amateurs of philosophy is essential to the new journal, but it would take no harm from a little competition with the professionals !

A new university periodical *

We are glad to note the publication of a new periodical devoted to the discussion of the issues over which thinking people in the universities are exercised. Within a remarkably small compass a great many subjects—philosophical, theological, historical, political, and literary—are touched on, sometimes expertly, always with liveliness. The main impulse seems to come from Oxford; and a perusal of *University* suggests that the conjecture recently advanced by Professor Barnes of Durham, that a time may come when missionaries will be sent from Cambridge to convert Oxford to metaphysics, is not quite so plausible as it seemed only yesterday.

University College, Leicester

In 1945 University College, Leicester, was placed on the list of institutions receiving grant from the Treasury. On December 4th, 1950, it received a Royal Charter as a University College. These two events mark, if not the achievement of all the ambitions of the

* University. A Journal of Enquiry, No. 1. Basil Blackwell. 1*s.* 6*d.*

College—for university colleges must always cherish the desire to gain full university status—at least a notable stage in its development. When the war ended the College was a tiny institution with fewer than a hundred full-time students. To-day there are 725 students, with a teaching staff of twelve professors and heads of departments and 61 lecturers; and there is a considerable programme of new building under construction. The College was founded as a limited company. This is perhaps the most curious of the many devices employed in the founding of university institutions. Popes, bishops and kings are associated with the beginnings of the more ancient institutions; the limited liability company is, in its way, as representative of the age that seems now to be ending, though we cannot find that it is a device which has often been used for so distinguished a purpose. Now, under the new Charter, the College has acquired the normal structure of a university institution. Its present prosperity witnesses with eloquence to the faith and devotion of the benefactors, teachers, and administrators who supported and served the College during its leaner years. May it prosper exceedingly in the years to come.

The next issue

In the next issue of the *Universities Quarterly* there will be a symposium on the place and function of English studies in the university. There will be general agreement that this is a question of interest to more than the members of departments of English language and literature. Suggestions have been made in recent years, notably by Dr. F. R. Leavis, that the English schools are uniquely adapted to act as centres round which other disciplines may gather and so find a principle of unification. However this may be, the question deserves to be considered by the members of other schools. In the symposium, Professor V. de Sola Pinto and Professor D. G. James are to write on the general question; Professor John Butt is to discuss the changes that have come over the English schools in recent years; Miss Marjorie Daunt is to write on language studies; and Mr. Richard Hoggart is to write on English studies in extra-mural education. It will be seen that the contributors to the symposium are all of them English specialists; but we greatly hope that what is said will be found stimulating by others, and we should be glad to consider comments, whether in the form of letters or of articles, for publication in later issues.

THE UNIVERSITIES AND RESEARCH
Introductory Note

These four articles have very different interests and they must speak for themselves. But there is a common underlying preoccupation with the question: Is research as it is at present practised at the universities hindering or helping the universities to be what they should be and do what they should be doing?

It is interesting to remember that thirty or forty years ago transatlantic and European visitors to this country asked themselves: Is the common preoccupation with the art of composition helping or harming the universities? Would British scholars be more profitable to the country and to the world if they gave more direct attention to learning and less to art? Would it be better if there were less creative virtuosity and more "research"?

First there is the question of the intrinsic value of the research itself. Probably particular pieces of research are always better and more readily done in one place than another. If it is necessary, in the interests of very high specialization and concentration, to go into purdah as it were for a time, the work is presumably better done in an institute and not next door to a college common-room. If, on the other hand, what is pursued is ideas for research, then probably a common life with research workers in a number of quite different fields is the right thing. Perhaps it is as simple as that. A predominance of research of the first kind would kill the universities; whereas research of the second kind could not be done so well anywhere else and in any case might well do them nothing but good.

Does modern researching harm teaching? The fear that it does is too often expressed today for this to be other than a real question. Do the skills and methods of research nowadays demand minds of a kind which have no 'interest in teaching' or gifts for it, and perhaps no affection for young human nature.

Does the answer lie in the distinction between the two kinds of research? Does this underline the desirability of the universities keeping themselves to the kind (perhaps the most fundamental and valuable?) which suits their intellectual temper and habit of mind, and keeping aloof from the kind which does not? Should a university be judged not primarily by the success but by the *nature* of the research it undertakes?

I. THE VALUABLE AND THE INVALUABLE

By W. R. Niblett

Professor of Education and Director of the Institute of Education, University of Leeds

I

It is apt to be taken for granted in universities today that the tasks of adding to the sum total of human knowledge and of educating students are closely akin. It is tempting to the university teacher to imagine that this is so because his life would be easier if it were. For he has on the one hand an undoubted responsibility to scholarship, and to the community outside, to undertake research and to add to knowledge; and on the other an equally unquestionable duty to ensure that his students shall be enriched not merely with knowledge but with wisdom, soundness of judgment and the capacity to take the large view. Whether research will in fact be likely to fructify teaching depends, I suspect, at any rate in the arts, upon which is meant by the term " research".

A university can probably carry a number of teachers who feel that their real job is to research in the strict and narrow sense of experimenting or collating texts, and that their students, after all, are rather a nuisance. But the proportion of such teachers it can carry and still remain truly a university is limited. The temptation—to which the modern universities are especially subject—to count ability to do exact research of almost any kind as *very* respectable, but ability to teach, even out of a rich personal store of representative culture, as only moderately so has its dangers. For the tendency of much research is centrifugal, with each worker striking out strongly in his own direction and tending to pull the university apart as a society.

Research as a dangerous trade

But the danger is not only to the university. We are not sufficiently alive to the fact that scholarly and detailed research, indispensable though it is, can be subtly dangerous to the worker himself. Many a research worker is essentially a technical specialist working within a confined field, and as inevitably threatened by many of the same dangers to his own continued development as a human being and a whole man as any other technician. He must consciously seek to safeguard himself against these dangers: and no doubt in a lively

university he will have a better chance of overcoming them than anywhere else.

Most of the triumphs of research are the results of patiently amassing facts and then of closely analysing them. But a habit of analysis once induced and trained is liable to spill over and spread itself, becoming a substitute for other attitudes. It is only sometimes that the wish to analyse a situation with the sharp instruments of reason is one that can be indulged. To feel and to act are also appropriate human reactions—and need educating too. A desire to take things to pieces to see what they are made of or to track down the influences which combined to produce certain happenings in history is a legitimate one. But too often the analyst is tempted to assume that when he has the pieces in his hand he has explained the thing that they were making—that the petals plus the stamen plus the stem are the flower. The detached, inquiring mind of the scholar and research worker is highly necessary; but it is neither natural nor healthy to live permanently in a state of inquiry and detachment, and there are many occasions when it is almost ludicrously inappropriate.

Indeed the very possibility of the university study of many arts subjects—music, or the French lyric, or theology, for example—depends upon the existence in the student of moments of receptiveness which are not the product of any analytical process. The distinctive function of the university study of history or literature or art, whether by undergraduate, teacher or researcher, is such an understanding of human experience as will enable a proper evaluation of its significance. That function can perhaps only be carried on at all if the student actually *loves* some of the books, or traditions, or pictures he is examining and criticizing. There is a sense in which all real knowledge is experience. The sort of theologian who has no personal convictions and no personal religious experience has little that is real to study, even objectively. The man who

> " Of the past can only see what is past
> Not what is always present "

will be incapable of doing the sort of historical research which most matters. Any research worker, in fact, if he is to do work of really high value must retain his power to experience—for there is no way from one piece of knowledge to another except through life. The

secondhandness of the learned world, as Whitehead has grimly said, is the secret of its mediocrity. However scrupulous a scholar may be, it is impossible to find out by being painstaking what other people have discovered by passion, sacrifice, humiliation and suffering. The measurable is only sometimes the significant.

The young research worker

Exact and painstaking research in the arts is perhaps most dangerous of all to the researcher when he is a graduate in the early twenties, fresh from his Honours School. He is given a limited territory to investigate—where limited really means little, though that is not a word his adviser or supervisor will use. In the name of research he is, in Barbara Wootton's phrase, set questions to answer which no one otherwise would have thought of asking. For some young research workers the temptation to shut too close the gates of experience will be severe. Is this really the best we can do for their continued education? By this recipe only the most able and imaginative will be given a chance of developing into men as wide-minded, philosophic and comprehending as they might have been. Training of such a sort is only too likely not so much to educate people as to ensheath them.

It is not even as if the contribution they are likely, at this stage, to make to knowledge in the narrow sense will matter more than a little. The U.G.C. *Report on University Development from* 1935 *to* 1947 refers to " the tendency to over-emphasize in the name of research the value of certain forms of post-graduate activity which have little real importance from the point of view of advancing the frontiers of learning." " In past years," it goes on, " much post-graduate work has taken the form of study for higher degrees which are normally the reward of research in narrowly specialized fields of inquiry not all of which have particular educational value . . . In many arts subjects the student in search of a novel sphere of operations is apt to be diverted to the elucidation of details of little cultural importance."*

A number of alternatives to research for arts graduates are in fact needed in the immediate postgraduate years. The newly devised courses at Oxford for the degree of B.Phil. are examples of what should be provided in other subjects of study than Latin and Greek, philosophy, politics and economics. The advanced study of

* p. 43.

education over a wide field which now has to be undertaken to secure a pass in Part I of the M.Ed. degree examination, or of the M.A. in education, in certain English universities is an example which perhaps might be followed by post-degree work in a number of other subjects. Universities in the United States face the same problem: "Forward looking graduate schools concerned with the preparation of (university) teachers," says Dr. Carmichael, "are taking stock of their inadequacies and making efforts to modify their offerings because they recognize that the highly specialized research programme does not meet the needs."* We have cause to think much more clearly over here about the best sort of education to give the university lecturer-to-be in his early post-graduate years, if the research he is to do at a later stage is to be as fruitful to his teaching as it might have been, and if his teaching itself is to be rich and nourishing.

II

Research into some minute question of history or authorship may not, then, be the most appropriate occupation for the student in his first years as a graduate, and exact, detailed research at any age must perhaps remain a dangerous trade, however necessary. But the attempt by the rather more mature lecturer, with a well-stored and philosophic mind, to research into some of the problems, bigger or smaller, thrown up by his subject can be invaluable. Investigation of this sort will almost always involve research into the worker's own mind as well as the examination of records, documents or works of art. Whether he discovers something of importance or not will always depend intimately upon the *kind* of question he is asking. And he must ask *particular* questions or he will get no answer at all.

Some important questions

Among the most necessary questions for mature research workers in arts to answer at this stage are some pretty fundamental ones. For the work done in psychological, sociological and anthropological fields during the past fifty years has opened up territory whose exploration by the humanist should increase understanding of human experience as well as add to information.

The direction of much of the most necessary research work in the arts during the next half century was indicated in Hulme's *Speculations* as long ago as 1924. In that seminal book he argues

* Report of the Carnegie Foundation for the Advancement of Teaching, 1949-50, p.19.

that the assumptions which we make in arriving at particular judgments pass unnoticed because they lie at a deep level in the unconscious mind. They colour not merely our judgments on a particular issue but our whole way of looking at things. We do not see them, but other things *through* them. They will determine the very questions we allow ourselves to ask, as well as the answers we find satisfactory to those questions. One of the major researches in the study of any society and its institutions is a research into the basic assumptions made in and by that society.

Every human being grows up within a society which has its own pattern of influences and cultural determinants and his outlook is unconsciously biased by them. Much research needs to be done into the psychological effect of scientific discoveries or of national victories in creating a climate of confidence which in its turn makes other discoveries or victories possible. As Butterfield has pointed out, there is need for a climate of confidence before a scientific system can be established. The overthrow of the old idea of the cosmic system came just *before* the invention of the telescope; Harvey's discoveries about the way in which the heart worked came just *before* that of the microscope.

Here is work for historians, philosophers, students of literature and painting. In the "applied" arts too—economics, social studies, psychology, education—during the next fifty years research of value is likely to be much conditioned by this consciousness of the need for reckoning with the influence of climates of opinion, with the value judgments which are built within so many of our actions and our institutions.

Research in education

It may be interesting to note some of the effects of this approach upon the research work needing to be done in one particular subject. I take the field of education as an example because I know it best. What might be called the anthropological approach to the study of the school, of the classroom and of what goes on in the classroom is likely to become very much more common. As well as giving attention to the subjects of the curriculum and effective ways of teaching them, we need to find out very much more about the apparently incidental education which is going on all the time that any "subject" is being taught. For example, in English work, though the same piece of literature is being read by all the forty

children in the class, each is learning a different piece of literature because of the different background and assumptions which he brings to its study. Different groups speak different English languages—though they all speak a language which is recognizably English.

What is effectively and permanently absorbed and learnt is apt to be determined by the social values and implicit value-judgments of the nation, the age, the group to which the learner belongs—expressed through the rewards subtly given by society to what is approved as "normal" or "good." In England it was easier to learn to be a fervent imperialist in 1900 than in 1930. Research into the nature and extent of the approval given by different social groupings to various pieces of learning would throw a good deal of light upon the reasons for differing degrees of success in teaching them. The learning of facts and techniques and skills is often an indication of the effectiveness with which attitudes of mind and particular ways of feeling have already been learnt. In some schools it is probably much harder to teach art, or Latin, or chess, or religion, or music, than in other schools taking pupils of equal intelligence. The effect of the real (often unconscious) wishes of parents and of surrounding society upon the directions in which learning is easily possible is a major subject for investigation.

But sometimes the society to which a child really *belongs* is only a small part of the society by which he is apparently surrounded. One has first to find out in these cases which in fact are the social groupings having the most interior influence upon him. One child lives in a slum home but is yet not a slum product. Why not? Another sees a hundred films and none of the values preached by them have any perceptible influence on him. Why not? Barriers to learning are often barriers in the mind of a social group or of a national society itself, finding expression in the mind of the individual. A society is a great womb in which men still continue to live after being physically born.

Much more inquiry needs to be made into the history of the social movements which brought this educational institution or that technique into society. We need to write a detailed history of the development of the cultural strands which make up our civilisation. We need to track down and chart social currents and pressures and their effects upon education. Remembering and forgetting are socially conditioned processes. Not merely the existence, but the

content and the intimate emphases of a school (or for that matter a university) " subject " have their origins in society outside the school. The continued evolution and shaping of the curriculum, the acceptance in any age of that curriculum by parents and teachers, have in part social explanations.

The more wholeheartedly we approach educational research in this way the less possible does it seem to separate off " the school " from " the home " and from " the cinema," indeed from all that is read and looked at, as the one great subject for educational research, and the less possible does it become to think of knowledge or information as the chief product of education. Learning how to behave according to socially approved standards, learning a whole subtle variety of self-confidences, learning to sympathize in a wider and wider range of human situations, learning to " understand " and judge human character are seen to be parts, and very important parts, of education. An endless succession of opportunities for educational research work present themselves.

But research work of this sort is live research—preparing the way for an evolution in our conception of what education itself is and might be. It is the function of criticism, in Matthew Arnold's words, to create a current of true and fresh ideas. Educational research, properly understood, has the duty of creating a freshly blowing current of ideas about the nature, the content and practice o education.

The task of research

And the same thing is true *mutatis mutandis* of all research work in arts fields. The future can only be built upon the real past. And it is the duty of research to find and to show how real the past was and still is. Research in the arts, as I see it, has the task not merely of discovering new facts but of so interpreting the old with the new added that our understanding of things is brought up to date. In other words, its function is both to increase men's knowledge and at the same time to refresh and enlarge their experiencing power.

II. RESEARCH IN THE ARTS

By Kenneth Muir

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Our standard of living, perhaps our very existence as a nation, is thought to depend on the quality of our scientific research. Research in the arts' faculties cannot be justified on grounds so impressively utilitarian: it will neither alleviate our dollar famine nor create new weapons of mass-suicide. But though it is less obviously necessary in the eyes of the general public, and though it is sometimes carried on in unintelligent and perverted forms, it is none the less of supreme importance to the universities themselves and, indirectly, to the cultural life of the country. Without it, university teachers become mere middlemen: their lectures provide information obtainable in a good library. There is, of course, a place for the brilliant popularizer; and some of the most famous professors of the last fifty years have never soiled their hands with research. The best of them have attempted to make an imaginative synthesis of the researches of others. But the popularizer is liable to be shallow, and the synthesist is likely to be unsound, unless both have personal experience of research; and if research were to dry up, teaching as a whole would certainly deteriorate.

Sterile research

This is not to say that the present state of research is satisfactory. It is impossible to read one of the journals which print the results of research in the classics, in modern languages, or in English literature without alarm and despondency. (Historical research is, perhaps, less open to objection.) The articles deal either with minor authors, who would be despised by the researchers if they were contemporary, or with a minor point about a major author. The excuse for studying a third-rate author, or for bringing to light some biographical, bibliographical, or textual fact about such an author, is that, however indirectly, it helps us to understand the literature that really matters. If, for example, we write on *The Three Miseries of Barbary*—a bad pamphlet by George Wilkins—it is not because poor Wilkins has any intrinsic importance, but because he may be the author of a play about Pericles which formed the basis of Shakespeare's; and to throw light on Shakespeare at work is a task not without value. If we produce convincing emendations in

the text of Virgil or Milton we contribute, however humbly, to the understanding of great literature. If we trace the influence of Saint-Amant on English poets of the seventeenth century, or demonstrate the use made by Racine of Euripides, or of Kipling by T. S. Eliot, we may do something to illuminate poetic inspiration. But too often research seems to be the mere accumulation of unimportant facts which in the aggregate get between us and the literature with which we are properly concerned. Keats's passport, the washing-bills of Shelley, the textual variants of *The Farmer's Boy*, the use of poetic diction in the sonnets of David Lester Richardson, are subjects not easy to justify.

Sometimes appearances are deceptive. Subjects which seem to the outsider to be worthless may be valuable to the specialist. " Nasalization in Haitian Creole", however unpromising it seems, may be of first-rate importance. There are sometimes unexpected links between the trivial and the profound. *A Midsummer Night's Dream* is not a play that requires a great deal of commentary; and yet a recent researcher has shown us that we had all been ignorant of a clue essential to its interpretation: unless we know Thomas Mouffet's poem on the cultivation of the silkworm we cannot fully understand the interlude of *Pyramus and Thisbe*. Occasionally researchers have revolutionized our attitude to the literature of a particular age. It may be said, for example, that after the researches of Sister Miriam Joseph and Miss Tuve on Elizabethan theories of rhetoric it will be impossible for us to read Shakespeare or Spenser as we did before; and eventually their researches are likely to affect the production of Elizabethan plays on the professional stage.

Research and criticism

Yet, when all allowances have been made, it must be admitted that some researchers have almost a genius for discovering subjects of no importance, and for misapplying " scientific " methods. They forget that research is not an end, but a means. The immediate end of research in the classics and in the literature of modern languages is criticism or interpretation. Each new fact is valuable only in so far as it helps us to understand the literature of the past: and the best researchers will be those who have that end continually in view. On the other hand, the divorce of research and criticism is equally damaging to both, for research becomes meaningless and sterile, and criticism imprecise and inaccurate.

There is nothing more useless than that kind of belletristic criticism that pursues its airy way in defiance of the known facts; and no one would wish scholars to forsake research for literary journalism. The kind of criticism that is needed would be based on wide and exact knowledge. It would require a background of historical and philosophical fact; it would require psychological understanding and a sensitive taste; and, like Bacon, it would have to take all knowledge for its province. Yet a certain type of scholar looks askance on criticism, as though it were in some way beneath the dignity of scholarship. A classical scholar who publishes, let us say, a book on Horace is violently attacked by other scholars, not because he fails to illuminate his subject or to increase his readers' enjoyment of Horace's poems, but because he has not read everything that everybody else has written about the subject. If the author had postponed the writing of his book in order to read the often worthless theses in the archives of a hundred universities from Wittenberg to Ohio, if not from China to Peru, he would never have got round to finishing his labours. So we have the absurd situation that to write a "scholarly" book the good scholar has to waste years of his life in reading the works of bad scholars; and if he returns alive from his explorations in the jungle he will be less competent to write a good book than when he started out. A friend of mine decided that there was room for a good book on Spenser—as indeed there is. He studied a bibliography, and estimated that if he had nothing else to do and no teaching duties he might digest all that had been written about Spenser in five or six years. But as he has to teach for a living the task might well take fifteen or twenty years, and during that time books and articles on the subject would continue to multiply. It is hardly too much to say that research, instead of being the handmaid of criticism, has become its mistress—unfortunately in the respectable sense of the word.

Although we know more about the literature of the past than our eighteenth-century ancestors, and although the educated man of to-day probably has a more catholic taste than Dr. Johnson, it is arguable nevertheless that scholars of modest attainments had then a sounder attitude towards the classics than their more specialized descendants. It is said that A. E. Housman dealt in his lectures almost entirely with the minutiæ of textual criticism, and that only rarely did he allow his students to observe that he himself enjoyed

Horace's poems. Criticism and appreciation he regarded as irrelevant to his function as professor of Latin, and he indulged in them only as surreptitious vices. Housman's morbid reticence on literary values has been followed by others who refrain altogether from declarations of love, and make it difficult to tell whether in fact they have anything to declare.

Fame is the spur

It must be admitted that the huge output of unnecessary research is not produced by the desire to widen the bounds of knowledge, but by the desire for promotion. A fat volume or twenty articles are more likely to impress a committee than the ability to deliver a brilliant lecture. The anxiety to publish is less acute in England than in America, and in Oxford it becomes a positive reluctance ; but in most universities there is a considerable pressure on younger lecturers to publish as soon as possible. Yet it is with them that research is most likely to interfere with teaching. Their energies ought to be devoted mainly to teaching, not only because they will take longer to prepare their lectures, but because they ought to be acquiring a wide and deep knowledge of their subject, which the young graduate cannot possess. This wide knowledge will be the best possible foundation for later research. Many useful projects of research have in fact been suggested by experience of teaching. The lecturer finds that he cannot recommend a book to his students on a particular topic and determines to fill the gap himself.

Yet although premature research is apt to interfere with teaching, it must be admitted that in the long run teaching will seldom be first-rate unless it is combined with research of some kind. Bruce Truscott's denunciation of academic slackers is to that extent justified. Undergraduates will look upon universities as mere gateways to a degree, and degrees as gateways to jobs, unless the teachers show by their own enthusiasms that they are concerned with the advancement of learning, and not merely with its propagation. Such an exhibition of one's credentials is all the more necessary in provincial universities where the M.A. thesis seldom breaks new ground and is intended more as a training for the student than as a contribution to knowledge, and where there are few students for a doctorate.*

* Although it is good for a student to proceed from Leeds or Manchester to Oxford or Cambridge for his post-graduate study, it is very bad for Leeds and Manchester.

Present opportunities

The criticisms I have offered of much current research should not be taken to imply that there are not plenty of fields in which profitable research can be carried on. Research in the classics may be in a special category because of its long history and comparatively restricted field, though even here there are good authors who have been largely neglected. In modern languages, in comparative literature, and in English Language and Literature, there is no such restriction. Intensive research in these subjects is a modern development and there is, in spite of over-production, plenty to be done. Each new generation, moreover, provides more literature to serve as the basis of research and criticism ; and every new poet or novelist modifies our attitude to all the poets and novelists of the past.

Considering the industry of the past fifty years, it is amazing how much necessary spade-work remains to be done. There are, for example, a large number of important writers of whom no adequate edition exists (*e.g.*, Daniel, Bacon, Middleton, Ford, Coleridge); and if the editing of these would be too difficult a task for the modest researcher there are still scores of unpublished MSS from which it might be possible to glean a rich harvest of poetry. Many of these MSS were combed during the nineteenth century by the anthologists, but there has been a shift of taste since then. The only obstacle to such research is the difficulty of publication. More periodicals are needed in England for the publication of research, and there would be room for one that was concerned entirely with the printing of unpublished MSS. It is even more important that every university should have a press of its own, in fact as well as in name.

The opportunities for research are even wider in Italian and Spanish literature. Many of Lope de Vega's plays are still unpublished; and no adequate book can be written on Spanish drama until these plays are made accessible. Only the other day, a new *Triumph* of Petrarch was discovered and published. These two examples suggest that the opportunities available for Spanish and Italian scholars are almost limitless. There are equal opportunities for the student of comparative literature. We know far too little, for example, about the influence of Italian literature on the Elizabethans, or of Spanish literature on the drama of the seventeenth century. We do not even know whether Shakespeare read Italian,

though it was been suggested that he derived the plots of *Much Ado about Nothing* and *Timon of Athens* from Italian plays. All the literatures of modern Europe are related to each other and to the classics, and our knowledge of their interrelations is still fragmentary.

All literature is a reflection of human consciousness in a particular epoch and it cannot be considered in a vacuum. This means that the student of literature is compelled to study history, philosophy, and even science; and the philosopher and the historian can find plenty of subjects for research on the frontiers of literature. Research would certainly profit from this kind of cross-fertilization.

Responsibilities

But, as I have suggested, all research is a means to an end. The immediate end is criticism; and since good critics are at least as rare as good scholars, criticism should not be regarded with condescension as a poor relation of research, but should rather be welcomed as a legitimate activity for the university teacher—if only because it has a wider cultural influence on the community at large. Criticism at its best performs a vital function. It maintains literary standards; and since literary standards are inseparable from the general patterns of culture it may help to conserve or reform our ways of life. It is not an accident that all the best critics have been critics of society as well as of literature or art. In our own time, T. S. Eliot, Herbert Read, Middleton Murry and the editor of *Scrutiny* have all followed the example of Matthew Arnold in their concern with society. When words "decay with imprecision," when our prose becomes inflated and vague, when all our writing is infected with clichés, we may be sure that these vices are a reflection of some basic weakness of society; and it is the function of the critic to diagnose, if not to cure.

The scholar who turns critic is not, therefore, betraying his trust. We may go further and suggest that certain other activities may be regarded as legitimate substitutes for research. Some American universities appoint resident poets whose main function is to write poetry: and the presence of Robert Frost on the campus is its own justification. Similarly, it may be said that Macneice's translation of *Agamemnon* was quite as valuable a contribution to classical studies as a learned essay on the play would have been; and we should be equally grateful for translations of Italian and Spanish drama, and, indeed, of literature of many different languages.

Legitimate substitutes

Any creative activity should be regarded as a satisfactory substitute for research: for example, Lionel Trilling's novel, *The Middle of the Journey*, was as legitimate an activity for a professor of English as his books on Arnold and Forster. It may even be said that a lecturer on drama in any language would learn more, and teach more, by the production of plays than he would by discovering the marriage certificate of John Ford, or the record of a law-suit in which Calderon was implicated. Perhaps it should be said that a man who has never produced a play, or acted in one, ought never to be allowed to lecture on drama; and that a man who has never attempted to write verse is unlikely to be a good lecturer on poetry.

In spite of the criticisms that have been made of certain kinds of research, and in spite too of the substitutes mentioned above, it remains true that research is as necessary in the arts as in the sciences. There are signs, too, that the research of the past fifty years is beginning to bear fruit. In English and French studies there have been several important works in which scholars have made an imaginative synthesis of the researches of others. The best of these have been written by men who realize that learning is not an end in itself. All researchers should remember that the most learned of poets, Milton, was enough of a Baconian to despise what he called—

> "a poor regardless and unprofitable sin of curiosity . . . whereby a man cuts himself off from all action and becomes the most helpless, pusillanimous, and unweaponed creature in the world."

Learning is for use; and if the immediate end of research is criticism, the ultimate end is nothing less than the Good Life.

III. TECHNOLOGICAL RESEARCH IN THE UNIVERSITIES

By N. J. Petch

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To some, the idea of technology and technological research within the universities is anathema. To the present writer, there appears to be a simple choice. The universities can choose to play fully a really vital part in the life of the country, or they can withdraw behind a definition of their mission that involves a denial, or at least a severe limitation, of any responsibility to the outside world. If they choose the former of these alternatives, it is my belief that they must accept responsibility for the proper education of all those in whose hands the higher conduct of the world's activities will lie.

This certainly means the acceptance of technological education. We are aware from the world economic position that the survival of anything approaching our present standards is, war apart, in danger. Our hopes lie in the possibilities of technological advances, and our future to a large extent is in the hands of the technologists. To accept responsibility for their education is a great challenge and a standard in this education any lower than befits a university would not befit their future responsibility.

No less important is the possibility of direct contributions to the advancement of technological knowledge by university research.

The relationship of teaching and research

In recent articles in the *Universities Quarterly* there has been general agreement that one necessary feature of university teaching must be an approach, at least at some points, to the frontiers of knowledge. This is the path to the acquisition of a discipline of critical enquiry and judgment, which should be one of the hall-marks of a university education. There is also agreement that this calls for teachers who are themselves directly participating in the advancement of these frontiers.

Thus, the need for the association of creative work with teaching is accepted. Such creative work may or may not be synonymous with what is commonly understood to be research. Literature, art and music are obvious examples where there is not necessarily such synonymy.

While good teaching requires research, a great interest in the latter frequently brings conflict with the demands of the former. Even at the present level of university staffing, it is common to hear the view expressed in scientific and technological departments that, with teaching and the administration associated with the running of laboratories, it is a real problem to find sufficient time for the undisturbed thought necessary for high quality in research work. That our departments are certainly not overstaffed, would appear to be the conclusion. It is some consolation to reflect that while research is good for teaching, the reverse is equally true. Teaching imposes a discipline that guards against an excessive specialization, which must eventually be detrimental to research.

Recognition of the relationship of research and teaching gives an answer to a problem peculiar to technology. In the natural sciences, the sequence undergraduate, research student, academic staff is almost the rule, but in the technologies some experience of their practice outside the universities is desirable. The problem is "What experience, and how much?"

It is helpful to recognize that the practice of a technology is a compound of science and management. Few reach the frontiers of both aspects, and at present it is normally only the scientific frontier that passes through a university department. Accepting this, and accepting, too, that teaching should be allied with research, it would seem to follow that the universities should evaluate experience in terms of fitness for scientific work. Thus, a long general experience, a large proportion of which is really of management, would not appear to have the value in a university that it certainly has in industry. Some general experience is undoubtedly desirable to get a broad appreciation of current practice and knowledge, but thereafter it would seem to be experience in design and investigation that is valuable, and this can be gained in a variety of ways, in industry, in research associations, government establishments and in the universities themselves.

This pre-occupation of technological departments with the scientific aspect of their technology suggests a one-sided treatment. But the principles of management are not peculiar to any one technology; they are founded on economics, economic history, the social sciences and philosophy. These fields are well represented in the universities, and normally the technological courses draw upon the teaching they want in the departments specifically devoted to

these subjects. Nevertheless, to my mind, the amount of treatment this aspect of technology receives could with advantage be increased for those students whose interests will lead them to be concerned with the management, to as great an extent as with the science, of a technology. Indeed, greater recognition that there is a difference in the training required for managerial and for scientific work in a technology appears to be overdue. In the re-orientation of approach this suggests, it would seem desirable that technological departments should give some attention to research on the management problems peculiar to their technology. Agriculture is a notable case in which this is already done.

The association of research and teaching has another peculiarity in technology. The principles used for research in the science of a technology are those of the pure sciences, so the greater the knowledge of these the better. Thus, there is a definite place for graduation first in a pure science, followed by migration to a technology. Such migration is probably best achieved by a period of full-time study in the technology, and a welcome step is that of the Department of Scientific and Industrial Research in permitting extension of the tenure of their maintenance grants so that such study may precede research. Previously, this concession was limited to metallurgy. Also welcome is the recent action of the University Grants Committee in giving special support for the post-graduate training of, amongst others, pure science graduates in certain specific fields of technology. However, it is frequently difficult to persuade pure science graduates to take a further course of full-time study; but they can be attracted to research work in a technology, and then persuaded to attend lectures in the subject concurrently. Thus, technological research in the universities has an important function in attracting science graduates into technology, and in teaching technology to them.

In the department with which I am associated out of a total of 21 research students, 52 per cent. are entering technology in this manner. Fifty-four per cent. of the academic staff have come through these channels.

The nature of university research in technology

There is a variation with the stage of development of the technology. In many technologies that have been practised for centuries, empirical discoveries have caused practice to outstrip understanding.

In such cases, the initial concern of university research has necessarily been largely to bring scientific understanding to established facts and practices, and to contribute generally to the developments that resulted from fairly straightforward applications of scientific principles. But as the problems become deeper and many other research centres become active, there comes a time for re-assessment of the university position. This position is unique in the freedom that the research worker has to follow in his own interests, a fact that to many represents the real attraction of university work. In the writer's view, when the time for re-assessment comes, this freedom is most valuably utilized if university work assumes a distinctive character, recognizing, and leaving to industry, work that can be more effectively carried out there. Most appropriate to the universities is a concentration on theory and principles, on research that, although of technological interest, is in treatment only uncertainly divided from pure science. University concentration in this direction is of particular value, since industrial work has a natural preoccupation with direct application.

The achievements of university research

A recent comment in the *Universities Quarterly* implies that university research in general is too much " about little things rather than great."

It is good for any research worker to look critically at his work in this light, for it is fatally easy to magnify a triviality by reason of one's own interest in it. But I am quite sure that, on the whole, in the fields with which I am best acquainted—science and technology—this comment is too harsh. It fails to recognize that most progress is a succession of little steps, that only incomplete knowledge gives the impression of great steps. To my view, in general, the many little things so actively studied represent collectively a fairly close pursuit of the major topics in science and technology.

What has in fact been achieved? Clearly, there is no space to answer this in detail, but it is of interest to attempt to get an idea of the type of work that has been carried out.

In the group of technologies that some time ago could have been broadly classed as " applied chemistry," but are now becoming increasingly " applied physics " (e.g., metallurgy, fuel, ceramics, textiles) it is particularly true that practice outstripped understanding. Thus there has been the initial stage, already referred to, in

which university work was largely concerned with bringing understanding and with the more immediate developments made possible by scientific methods. In retrospect much of this work may not appear very spectacular; it has been readily assimilated, and has become commonplace in the general body of knowledge, but it represents an extremely important step in the development of these technologies. At this stage, university work has frequently contributed a high proportion of the total research effort. One aspect of this is seen in the way that the initial work of practically all the research associations has been largely carried out in the universities. Some such connections have continued even when conditions have considerably changed; an interesting example is a research staff of about a dozen maintained at Leeds under the Joint Research Committee of the Gas Research Board and the University. This Committee, in which the industry was originally represented by the Institution of Gas Engineers, has been at work since 1909.

In this initial stage it can be safely claimed that university research has played an important part.

In some technologies this stage of development persists. This is partly true in the study of natural fibre textiles, but in general it is passing. There are problems requiring deeper scientific understanding and more complicated scientific methods; in addition, large industrial, research association, and government laboratories are now active. To these changed circumstances, there is in some cases a suggestion of uncertainty in the university adjustment. In metallurgical research, for example, the value of a distinctive character in the university contribution does not appear to be fully appreciated, and such a character has not yet fully emerged. Too much of the recent work on metal physics has been allowed to come from the pure scientists.

Nevertheless, important characteristic leads have come from the universities in these technologies. The basic work on the constitution of coal is associated with the names of Bone and Wheeler; the work at Leeds on the atomic structure and chemistry of textile fibres is well known, the scientific study of corrosion is dominated by Cambridge work, Glasgow has established itself as a recognized centre for the study of slag systems.

In engineering, the concern is less with materials and processes and more with design; understanding and practice have probably remained closer together than in the technologies so far considered.

The development of university work has consequently been rather different and there has not been quite the same initial stage. Throughout, there has been a concentration on the principles of design, and here the achievements have been notable.

Many of the problems in the strength of materials and structures have been solved in universities. Southwell's relaxation method and the photoelastic work of Coker and Filon have contributed important general methods. Structures designed to take higher loads than are now normal, and in which the materials are so highly stressed that they extend plastically, are bound to come. The principles of such designs are largely the pioneer work of Baker at Cambridge. Much of the basic work on the pre-stressing of concrete has been carried out at Leeds. The work of Reynolds at Manchester in the last century on fluid flow and similarity is the basis for the solution of complicated hydraulic problems by models. These are only a few examples; in all of them, the universities have contributed principles that are of wide general application.

In agriculture, the initial association of the Ministry of Agriculture research stations with the universities meant that for a long time a very high proportion of the country's agricultural research was within the universities. The outstanding developments that have taken place in grassland management originated at Aberystwyth; the pioneer work on plant breeding was in the universities (e.g., Biffin's work on wheat); there have been outstanding contributions on animal and plant nutrition. Recent work on the transplantation of embryo, permitting for example beef cattle to be bred in dairy cows, has wide-reaching possibilities.

On the whole, there is some cause for satisfaction with what has been achieved.

The cost of technological research

It is one of the arguments of those who view the position of technology in the universities with disfavour that the cost of technological studies is prohibitive for a university.

Research certainly costs money. But in the approach to technological research most appropriate to a university, the methods, apparatus and cost are generally similar to those in pure science departments. Indeed, in physics, the cost of cyclotron and other particle accelerators necessary for nuclear studies presents a much greater financial problem to the universities than the technologies

have ever done. One point to note in connection with cost is that the association of technologies and sciences together in one institution frequently permits mutual help by loaning apparatus.

The availability of money for research in universities is certainly much greater than it was a short time ago, but it is still very limited. This leads to a considerable dependence upon outside support, a fact that may in many cases bring the universities into very fruitful associations; but it always carries with it the danger of some undesirable tie on university work, and a disproportionate amount of time may easily be spent on the collection of a few hundred pounds Most university departments in technology are in the position where one or two thousand pounds per annum available for direct spending on research would make a great difference.

The campaign on the position of technology in the universities has now resolved itself into an appeal for one technological university as an experiment. The idea is that a concentration of facilities would be possible that cannot be achieved in the present universities. Lord Cherwell has suggested a cost of £500,000 per annum. A realistic estimate of what can be got for this sum is worthwhile. It corresponds to the expenditure of a smaller university. Leeds spent £891,000 in 1949–50. Out of this, it was only possible to allocate £62,000 (apart from special grants) to equipment for research and teaching. On a similar proportion, the expenditure of £500,000 on a technological university would mean that £465,000 would be spent on duplicating services already existing, and only £35,000 would be available for equipment. If there were ten departments, that would mean an annual sum of £3,500 each. The same £500,000, if made available to the existing technological departments in the universities for direct spending on equipment would give to each of the 100–120 of them an additional £4,000 to £5,000 per annum.

The lesson that these figures indicate is that in an institution of university type only a small proportion of the annual expenditure can go towards the actual cost of equipment. Consequently, if the aim is to increase equipment facilities a much more direct effect will be achieved by the reinforcement of existing institutions rather than the development of a new one. If it is really desirable to have in the country at least one department in each technology with really outstanding facilities for teaching and research, the special development of selected ones from the existing departments would appear to be the most economical approach.

IV. UNIVERSITY SCIENTIFIC RESEARCH AS SEEN FROM THE DEVELOPMENT ANGLE

By M. Zvegintzov

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The scope of this article is somewhat unusual, and the writer approaches the subject with some diffidence, because his standpoint must be that of the commercial development and exploitation of research results. This, superficially at least, might seem fundamentally at variance with the ethics and aims of academic research. As, however, the Corporation exists to deal with the whole range of scientific research—from Government-controlled research at one end, to the private inventor's work at the other—it has to clarify its own ideas on the nature and aims of the various categories of research and its relation to them: among these, university research has a very important place.

The Corporation is scarcely eighteen months old, so the writer is not in a position to do more than indicate some preliminary thoughts and feelings on this matter. A very wide range of activities, however, is covered, and the experience to date can help to focus attention and clarify the mind, thereby gradually affording a better understanding of the scope and objectives of university research and the feelings of its workers.

Perhaps it is best to start with a general background in order to explain the writer's particular approach.

Without entering into a controversy about the exact definition and respective merits of pure and applied research, it can be stated that for some years there was a growing feeling that while the ingenuity of British research and invention might be second to none, the adoption of the results was frequently slower than in other countries —notably the U.S.A. To correct this tendency, the Development of Inventions Act (1948), was passed, under which an independent commercial body, the National Research Development Corporation, was set up, for (in the words of the Act) " securing, when the public interest so requires, the development or exploitation of inventions, resulting from public research, and of any other invention, as to which it appears to the Corporation that it is not being developed or exploited, or sufficiently developed or exploited."

Arising out of the above main objective, it is necessary to state clearly what the Corporation is and what it is not, what it can and cannot do. The Act is permissive, leaving the Corporation freedom of decision within certain fairly wide limits. The Corporation does not actively seek out research results, but obtains them either by arrangements arising out of the Act, or from voluntary approaches from workers. It must not engage in, or assist, research as such, *i.e.*, it must not be an additional financing body such as the Universities Grants Committee, the Medical Research Council, or a Charitable Trust. Nor must it, except under very special circumstances, engage in commercial production and distribution, *i.e.*, compete with industry. Atomic energy and defence are outside its scope. Within these limits it can do practically anything to fill any gap which may exist in the development of research results beyond the laboratory stage to a point at which they can be taken over and exploited fully by the producer or user. It must work with and through industry, and its guiding principle throughout must be the development of inventions in the public interest.

Sources of inventions

There are four categories of research from which the Corporation may obtain its inventions. *First*, Government research, *i.e.*, Government departments, research stations, etc. (in which are included the Medical and Agricultural Research Councils). The practical results of such research—most of it applied—are vested in the Corporation. *Second*, the universities and independent research institutions. In this case there is no general and uniform arrangement, but the Corporation offers its " good offices ", at the invitation of the academic body, to such workers as require their research results developed and applied beyond the scope of their own laboratory. *Third*, the Industrial Research Associations. Here again, any arrangements are made by mutual agreement. *Finally*, the private individual or firm. The first three categories are wholly or in part, financed from public funds: there is, therefore, a *prima facie* case for the Corporation to consider inventions arising out of such research. As regards the private inventor, however, the Corporation must first consider the public interest aspect: inventions, however ingenious or potentially lucrative, if without a substantial public interest element, are much better left to industry or private finance.

The field is thus wide, and includes pure and applied research, even though, apart from wholly-owned Government inventions, the Corporation deals only with such results as are put before it. Increasing experience is being obtained of the outlook, objectives and difficulties in each category of research, and this, it is hoped, will gradually result in a clearer appreciation by the Corporation of the approach of research workers to their problems, and in the ability to express, when asked, useful opinions and advice.

It has been contended that only " applied " research could give practical results, and that " pure " research must aim solely at the increase of knowledge and development of research techniques. The writer doubts the accuracy of these definitions. Applied research may well yield nothing apart from further basic knowledge of the principles and course of this or that process or phenomenon and the factors which govern it, *i.e.*, there will be no inventive results. On the other hand, pure research may—and, in fact, increasingly seems to—yield useful by-products, and, from time to time, quite unexpected practical applications. (It is perhaps worth noting at this stage, that applied research in universities is often linked with a public service, industry or firm. As mentioned before, the Corporation does not seek out inventions but deals with them when they are offered. Its object is to fill a gap not to duplicate effort, and if the further development of the results of applied research is being carried out satisfactorily by direct contact between worker and user, the Corporation does not wish to interfere.) The practical difference, therefore, between the two is rather perhaps in the attitude of the research worker. In this connection, there are two aspects of research results which raise ethical doubts (sometimes strong ones): patents, and the exploitation of medical research results. A somewhat detailed analysis of these seems therefore relevant.

Philosophy of patenting

Patents are sometimes deemed restrictive and suppressive of inventive effort, and therefore evil, so that true scientists and research workers ought (it is argued) to have nothing to do with them. This attitude—while very real—is surely based on a misunderstanding. It is true that patents have sometimes been used undesirably, but progressive improvement in patent legislation has now gone a long way to control this. So much for the negative aspect. On the

positive side, a patent position, if properly handled, can and does, in fact, increase and extend the use of the results of research. Note the words "patent position": it is rare for a single patent to create dominance far more often an inventive position or trend is gradually built up in which patents are, as it were, fixed points in a constellation and the sum total represents the invention. Thus, the whole corpus of knowledge and experience of the research worker built round the patents constitutes the results of his research. Patents, accordingly become tools for concluding operational agreements, and it is here that their value against restriction becomes apparent: if an important basic result is not patented, it becomes available to anyone, thereby giving the opportunity to marginal interests of patenting details of production or use and thereby quite possibly hamstringing the full exploitation of the basic discovery. (The possibility of such restrictive use has been specially recognized in the latest (1949) Patent Act in which Section 41 specifically prevents the exercise of a monopoly in the food and medical fields.) Patents also give their owner the right and means to lay down exactly how widely and on what terms the invention should be exploited under licence, thus assuring the public that the invention will be neither suppressed nor operated with insufficient scientific and technical accuracy. It might be argued that free publication of research results would achieve the same end more easily and quickly; while this is perhaps true in a number of cases, the reverse, too, can happen. In the first place, free publication does not guarantee that the exploiter will, in fact, adhere strictly to the conditions and standards stipulated in the research. Secondly, it is often difficult to persuade a firm or firms (who, after all, are the users of research results if the broad public is to benefit) to take the risks of making, selling and using unpatented results, because of the fear of unrestricted and possibly unscrupulous competition, with the paradoxical result that because there is no patent position, a useful discovery is, in fact, not exploited simply because no one will take the risk. (This, unfortunately, is increasingly the present trend, when the development costs and capital expenditure required for new ventures are so high.)

In the medical field it has always been a cardinal principle of medical ethics that the exploitation of discoveries should be free, the medical authorities thus setting their faces firmly against patenting. The great extension in recent years of chemical discoveries and

complicated instrumentation gradually showed that freedom of publication far from ensuring the freer and wider use of medical research results, tended to achieve the reverse. It also gave no assurance to the public that a particularly potent chemical or intricate device would, in fact, be made and used with those strict standards of accuracy and scientific control which are essential.

On this most difficult issue the Corporation had prepared at the request of its advisers, the Medical Research Council and the British Medical Association, a thesis on the exploitation of inventions in the public interest. As a result, the competent medical authorities have now decided that the patenting of medical inventions should be encouraged, provided the results are vested in a public body.

What is a patentable invention?

Some practical implications might now be considered. An academic research worker wishing to develop his results further, might wonder: What is " an invention "? What is " patentable novelty "? Unfortunately, this is almost impossible to answer precisely and cases must be treated on their merits. Some lines of guidance, however, may perhaps be given. If the research has been publicly disclosed in writing this is an absolute bar to patenting. A patent agent, therefore, should always first make a search for what is called " anticipation " or " disclosure." A patent can be obtained but may be invalid, through lack of novelty: this latter is much more difficult to define, but a rough and ready test is that a sum total of known practices, with nothing extra arising out of it, does not constitute novelty even if its use is new. If, however, some extra modicum emerges, a valid patent may be possible. Only by gradual experience can the " feel " of what is a patentable invention be acquired. The fact that many apparent inventions will not yield valid patents, should not disappoint; a patent is merely a certain outward sign of an inventive position and its absence, while perhaps making development and exploitation somewhat more difficult commercially, does not detract from the intrinsic scientific or technical merits of the research results. What has been said above on patents and disclosure is relevant to publication of research results and a Provisional Patent Application can generally (and should) be filed at the same time as results are submitted for publication in the scientific Press. This gives the inventor a priority date after which publication usually does no harm.

The above somewhat long analysis is aimed at giving a proper background against which the philosophy of the Corporation and its approach to academic research may be judged. As mentioned before, freedom of academic research and of publication are accepted as imperative, and the Corporation, neither explicitly nor by implication, would wish to do anything to frustrate these. It might be argued that its existence might divert the aims of workers from fundamental research to pursuit of gain: this suspicion, it is submitted, is unfounded, firstly because the Corporation does not appear on the scene unless invited or permitted by the academic body, secondly because the latter is well capable of exercising discipline, and thirdly because the atmosphere of university research is hardly conducive to the pursuit of purely commercial results.

Some preliminary conclusions

As has been mentioned, it is much too early to indicate more than tentatively which fields of research might yield practical results, or to assess their relative values. Potentially, the Corporation covers the whole range from heavy engineering to new chemical or biological compounds. Experience to date seems to show that the chemical and biological fields (in which British research is well to the fore) are prolific in new discoveries. These discoveries are stimulated by and should further stimulate, the present expanding trend of chemotherapy in medicine, and insecticides and biocides in agriculture. It is a field where fundamental and applied research are often almost identical, but where for successful exploitation of practical results, close co-operation between the chemist, the biologist, the physiologist, the pharmacologist, the clinical worker, the botanist and the agriculturalist are most important—a co-operation, in fact, only fully attainable in the stimulating atmosphere of a university.

In this connection, it should be noted that the 1949 Patent Act (already referred to) is an important advance over the earlier Act, in that it enables the patenting of new chemical compounds as such, (even by known methods) and not only—as hitherto—new methods of preparing them. This, of course, gives the inventor in the chemical, etc., field a powerful new instrument.

Another field is physics, with perhaps special reference to electronics. This yields many, and in some ways perhaps more rich, by-products, e.g., invention of new instruments. This latter may well be a growing trend, owing to the increasing complexity of the

instrumentation required for research, testing, control and clinical treatment purposes. At the same time it is frequently being found that extremely ingenious devices primarily designed for solving a particular problem can be applied over a much wider field.

Paradoxically perhaps, these two fields which seem so prolific also reveal significant and serious gaps. In the chemical and biological field, university resources can often readily produce small " test-tube " amounts of new substances, to test which properly are required what might be called " pilot-scale " quantities, quite beyond university resources to supply. Industry, too, often either cannot or is not prepared to go through the usually complicated, expensive and difficult process of preparing very limited quantities of something which might or might not have an ultimate commercial value. Unfortunately, virtually no pilot plant facilities exist in the U.K. at present to bridge this gap. In the instruments field, the fertile imagination and inventive ability of research workers produce many ingenious ideas which are translated, with the help of the university workshops, into models. In this respect, the high degree of skill, amounting almost to genius, of workshop mechanics is a revelation and may well be called the modern manifestation of the country's traditional craftsmanship through the ages. Nevertheless such models are not production prototypes and usually require considerable modification and redesigning before they can be tested out under searching conditions and passed for quantity production. Such prototype development work hardly any firm in this country will undertake, because under present conditions there is no slack in manpower or resources available and little incentive to take the financial risk.

The above two gaps—the " pilot-scale gap " and the " prototype gap "—may well handicap and delay the exploitation in this country of the numerous good ideas which continually arise, and may also discourage the pursuit of new and fruitful ideas. In addition, by the perpetuation of possibly inferior ideas (because these are not submitted initially to the searching test of experience) they might dissipate inventive effort instead of focusing it, and thereby indirectly handicap even the pursuit of pure research. In the U.S.A. these gaps do not exist, primarily because research institutions there are much larger, with far greater resources, particularly on the production side. There is also a more practical outlook and a higher standard of applied technology, with, in addition, a large market at the door

eager to try anything new. Thus, an invention or discovery can usually be produced in sufficient quantities to enable representative tests to be carried out immediately. Whether all this causes too much attention to practical applied results, and not enough to fundamental research, is outside the scope of this article, as also the controversial issue of scientific versus technological education. The results, however, do give food for thought, and may be a clue to why American research seems often rather to tend to ask the questions, " What does it do ? " or " How does it work ? " while British, going possibly more to the root of the matter, asks, " What is it ? " or " Why is it ? "

Summing up the view of the outsider, university research is a fascinating picture of active ferment in pure and applied science, in which definite lines with specific objectives, broad fields, and some little-explored by-ways are closely intertwined, with surprising and unexpected results appearing here and there. It is by encouraging the visible use of knowledge, and stimulating ingenuity for the solution of problems—whether fundamental or practical—that the Corporation will justify itself in the eyes of university research workers. On the other side, the gradual acquisition by it of knowledge on the aims and methods of university research, with its particular difficulties and problems, and the realization that good and useful results may be sterile for the lack of facilities which the universities cannot supply, should help in creating gradually external conditions which will enable the principles and practice of scientific research to be applied effectively over the next stage of the country's scientific progress.

CONFERENCE OF UNIVERSITIES AT NICE
December 3rd-10th, 1950

By R. N. Armfelt

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It was, no doubt, to be expected that the British delegation to the recent Conference of Universities at Nice should have a somewhat different point of view from that of other countries. It was to be expected also that they would find difficulty in expressing it without giving rise at some stage to misunderstanding. Yet there is reason to think that on the whole they succeeded. Foreign delegates who at the first session were loud in applause of our critics, were at the last session as loud in appreciation of the appointment of an English representative as Vice-President of the new Association.

British universities enjoy freedom. Relatively, this differentiates them from the large number of universities in the world which experience in varying degrees the restraints of state or other outside control. Some of these universities ask, in effect, for help. They cannot themselves resist the outside pressure, but they feel that with the support of other universities anything may be possible. Yet they probably underestimate one consequence of our tradition of autonomy. Universities in this country show a gentlemanly reluctance to concern themselves with each other's business. It is one thing to live as good neighbours, it is another to interfere with someone else's affairs. Consequently, our universities live together, much as the Dominions live in the Commonwealth. This relationship is our gift to the world, but our conviction of this does not alter the fact that it is still largely misunderstood.

Then again our universities—some of them at any rate—are old; and even the newer ones have reached a sufficient maturity to make exchanges of scholarship worth while. What may be more important, these exchanges extend beyond our boundaries. We may not associate as universities, but we do as communities of scholars. Historian can speak to historian, in whatever language; scientist to scientist; and together with our neighbours in other countries, on both sides of the Atlantic, we can explore the depths of common cultures. But all this belongs to universities which are mature. Many of the large number of universities represented at Nice were young and struggling. Without specifying it, even probably to

themselves, they were looking for the kind of nourishment which we assume. The movement was instinctive. However, even the best nourishment must be appropriate, and it is possible that in scholarship as in the processes of physical growth food must match a stage of development. It may, in other words, be the fact that young universities must take time to grow. Whether or not this be so, it is at any rate clear that a distinction may be drawn between scholars and the universities they serve. Scholars may meet, while universities continue in the independence they already know.

The work of the committees

There were thus, at Nice, differences of purposes ; there were differences also in conceptions of method. Here, no doubt, there began to operate those different qualities of temperament which are supposed to divide us from the rest of the world. We are practical. So too, we are assured, are some of the Latin races. That may be, but if it is so, there can be little disputing that they are practical on different occasions or in different ways. Otherwise we should not so often have had the experience of making apparently cogent observations and finding them answered with other observations, no doubt equally cogent, but, to us, irrelevant. More concretely, we might, for example, urge doubts about the proposed new organization of universities on the grounds that its purposes—or some of them—were already served in other ways. We would be followed by a speaker making the assumption from the outset that the organization was necessary and devoting himself to an exposition of abstract principles, concerning, say, the freedom of the spirit. In such circumstances it was in vain for our spokesman to insist that internationalism, as such, was not something to which we were opposed, and referring as evidence of this to the presence of six Vice-Chancellors. The British were negative ; that, in the first place, at any rate, was the majority point of view. There was nothing our representatives could do, but disperse to the three committees which had been set up, and prepare to play as constructive a part as possible.

The three Committees varied greatly in their achievement. Perhaps this was a measure more of the difficulties they had to face, than of their competence. It is at any rate the fact that whereas the committee concerned with the Bureau and its programme of work made steady progress from the outset, that on the Constitution,

to begin with, made none at all. Of the Committee on Finance one heard less, but when its conclusions emerged it was noted that in at least one respect it had achieved a success. It had resolved on a modest financial basis for the new organisation. In the end all reports reached the final plenary session, though that on the constitution ran the time close. In the end, too, all were accepted in spite of drafting errors.

The Bureau and Programme Committee were called on to reach decisions on two main questions—what were to be the duties of the Bureau and what should be done concerning " equivalence"? As to the first, duties were set out in the draft constitution running from (*a*) to (*h*). It was decided to give precedence to the first three, all of which were concerned with the collection and distribution of information. The last three— (*f*), (*g*) and (*h*)—were summarized under the phrase: "such other duties as may conform to the purposes of the Association". Thus emphasis was laid on the responsibilities of the bureau as a "clearing house", and this was a view to which British delegates subscribed. The problem of "equivalence" was more difficult. It was pointed out by a British delegate that in this inharmonious world nothing could more contribute to an extension of disharmony than the publication by one university of its estimate of the degrees or diplomas of another. Worse still, any attempt to trespass on university autonomy would provoke reaction of the most intense kind. Happily, these opinions found general acceptance and though at one time some difference appeared to divide the British and French points of view, the difference proved to be no more than verbal. In the end it was agreed that the Bureau would receive and publish such information as universities thought it proper to provide. Here again, consequently, our delegation had cause to be satisfied.

Decisions and proposals

The Committee on the Constitution, as has been said, progressed slowly. It was not in fact till the last day that it hastily traversed most of its ground in an effort to make up for lost time. One of its decisions was of particular interest. Whereas our delegates might have preferred seven years to elapse between Conferences, others favoured three. Consequently, it was no doubt reasonable that the Committee decided upon five years as originally proposed.

The Committee on Finance voted for a modest financial outlay

in the first place. This is not to say that they adopted the cheapest course. They, in fact, took the alternative described on the working paper as sufficient for the setting up at once of essential services with some allowance for growth.

The final stages of the Conference were not without their drama. The reigning President, M. Sarrail, the Rector of Paris, had been proposed as the first President of the new Association. However, the more insistent the urging he received to accept the honour, the more insistently he declined. Finally, with an engagement for lunch at Monte Carlo in prospect and the motor coaches actually drawn up in front of the Mediterranean Centre, the meeting was adjourned, with injunctions to reassemble at five o'clock. Little is known of what happened in the interval, but on their return the British delegates learnt that M. Sarrail had, after all, relented. It remained then for the Vice-Chancellor of Cambridge to make a speech, partly in French, in support of his presidency and the proposal was carried with acclamation. M. Sarrail did not, however, accept without stipulating that the Vice-President should be Mr. Roberts. From the applause that greeted this proposal it appeared that he, and one would like to think other members of the delegation, had reached the end of the Conference, without the attribution of faint-heartedness which may have attached to them at an earlier stage.

What, it may be asked, was the result of it all? In the first place it was decided to form an Association. It is true that our delegates, as representatives, reserved judgment. They could not commit their universities. Nevertheless, they would probably agree that in the course of the week something grew. It would be presumptuous to say more. Moreover, it was something of which, in the atmosphere of the Conference, one felt a part. Proposals will, no doubt, be made to universities in official form. In the meanwhile, there is good reason to think that, partly through the efforts of the British delegation, these proposals will be more commendable to British minds than in the first place seemed likely.

A NOTE ON AN ALTERNATIVE TO HALLS OF RESIDENCE

By Eric Ashby

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When Mr. Bruce Truscot last surveyed the Redbrick universities from the vantage point of his Olympian anonymity he found a unanimous desire for halls of residence.* Before the war was over, bodies such as the British Association and the Association of University Teachers had advocated that Redbrick universities should provide at least one year's residence in hall for every student; and the Universities of Manchester and Leeds had declared themselves in favour of this same aim. In 1947 a Commission on the Planning of Halls of Residence submitted a report to the Committee of Vice-Chancellors and Principals.† The preamble to this report contains an admirable summary of the case in favour of halls of residence, a case which seems unanswerable and which no members of a university would be likely to dispute. It has been said that the provision of halls of residence " ought to be the prime object of university policy during the next decade," and the University Grants Committee has offered every encouragement to universities to pursue this object. But in its last summary‡ the University Grants Committee is obliged to draw attention to the immense difficulty and expense of putting up halls of residence at present, and makes it abundantly clear that the ideal of a year's residence for every student in every university has receded to a very distant horizon. The Committee goes on to suggest that meanwhile universities might offer " some alternative to the bedroom in lodgings or the cinema " by the expansion of library accommodation, reading rooms, and evening meals. It is to amplify this quiet hint that the present note has been written.

The student who lives at home

In the session 1947–48 nearly 40 per cent. of university students in the United Kingdom lived at home and 37 per cent. in lodgings. If the statistics are calculated for the civic universities in half a dozen of the larger cities the results are that as many as 55 per cent. of

* Redbrick in these vital days, London, 1945, p. 49 ff.
† The planning of university halls of residence. Oxford, 1948.
‡ University development from 1935–37. London, 1948. p. 54.

students in these universities lived at home and as few as 28 per cent. in lodgings. Even in these times no-one is likely to challenge the need for halls of residence for the 28 per cent. of students in lodgings; but the British taxpayer might well ask whether a capital outlay of £1,500–£1,800 for each student place (which is the 1948 estimate for a hall of residence and is now probably too low), is really a justifiable expenditure, when the apparent result is merely that a student is brought four or five miles nearer to the university at the cost of leaving a happy and comfortable home. In brief, the universities are likely to receive continued encouragement from the public to accommodate in halls those students who live away from home, but the universities may have to justify, in phrases more specific than " the indefinable advantages of corporate life," the policy of abstracting a student from a home in one suburb of " Drabtown " (to borrow Mr.Truscot's label) in order to put him, at considerable public expense, into a hall of residence in another suburb.

Justification is needed, but it is not difficult to find specific justification for taking a student away from home during his university career. The case is not based on statistics, but it is supported by such figures as the following. In one university for which there happen to be statistics, it is known that in 1944 about half the students came from homes where the family income was less than £500 a year. In another university it is estimated that 32 per cent. of the students living at home do not have even a bedroom to themselves. A recent P.E.P. survey of university students* asserts that in three provincial universities and one university college (chosen as samples) between 50 and 80 per cent. of the students came from non fee-paying schools. According to the survey the children of manual workers compose about 28 per cent. of the student population in a Welsh college and about 20 per cent. in an English provincial university; and in one Scottish university it is estimated that the children of manual workers are about as numerous as the children of the so-called " petty bourgeoisie."† Finally, the University Grants Committee reports that in the session 1947–48, some 70 per cent. of students attending universities were in receipt of financial assistance from one source or another.

From these scraps of data it is not difficult to draw some con-

* University Students. Planning, xvi, 1950, p. 237.
† Sociological Review, 1938.

clusions about the environment of the majority of students who live at home while attending the university. The day student is likely to come from a home where heat, light and labour must be economized, and moreover a home where sacrifices have been made to send him to the University—a home to which he is tied by strong bonds of affection. Between the end of lectures at 5 p.m. and high tea at 5.45 p.m. the day student in such a home has to metamorphose his loyalties. The enthusiasms generated by his work and by talk with his fellow students during the day come into conflict with his duties to his family in the evening. He must not be late, or mother has to cook twice over. He feels obliged to help his young sister with her homework, so that she too can " go to college." He would like solitude and quiet, and his mother may encourage him in this, but he feels it is selfish to use the gas fire upstairs, and another light, when there is plenty of room at the kitchen table for his studies. And when there is sickness in the house the day student, particularly the woman day student, may have to drop university work altogether for a while. In thousands of homes family life revolves round one fire in the house, with father listening to the radio, with the younger sister learning French in an undertone, and mother needing help with the housework. This is the intellectual climate in which many day students work and it is a serious threat to the integrity of scholarship. It is not a problem which can be solved completely by the thoughtful parent who has anticipated these difficulties. Indeed the more united family life is, the deeper is this conflict between loya../ to work and loyalty to home likely to be. It frequently becomes a more serious obstacle to academic success than the discomforts and privations of cheap lodgings: in lodgings the student is at any rate under no ties of loyalty and affection to his landlady.

If these considerations are accepted, they lead to the conclusion that it is (if anything) more important to provide halls of residence for students who live at home near the university than it is for those who come from afar off. A system of properly inspected and registered lodgings goes a long way toward the amelioration of the lot of students who do not live at home, but there is no such easy solution to the emotional problem which faces many students who do live at home. The student needs freedom (in the words of the University Grants Committee Report of 1936) " from the varied household distractions which are an inevitable and proper part of

normal home life." To accomplish this it would be necessary to shift some 40 per cent. of all students in the United Kingdom from their homes (mostly within 30 miles of the university) to halls of residence, at a cost of millions of pounds, an operation which is certain to be slow and in some universities is unlikely ever to be completed.

An alternative solution to halls of residence

Is there no alternative solution to the problem of the home student? I think there is. A mere inspection of the finances of halls of residence discloses that the chief capital cost is in respect of bedrooms, and a good deal of the running expense is devoted (if one may put it paradoxically) to the cost of keeping students asleep. Fifty-four per cent. of the floor space of the " ideal " hall of residence is for study-bedrooms and the passages, staircases, and lobbies incidental to them. Is it not likely that many of the benefits of halls of residence could be secured, and many of the difficulties of the home student could be avoided, if students took bed and breakfast in their homes or in lodgings, but were able to spend the rest of their time in term at the University? Such a proposal as this seems well within the bounds of possibility. Suppose it were arranged that the university fees included a composite charge for lunch and dinner, and the regulations for undergraduates required a regular attendance at both lunch and dinner. And suppose there were comparatively little class work in the afternoons, and that laboratories and libraries and study rooms were open until 10 p.m. And suppose the refectories provided dinner as well as lunch, and a cup of tea or cocoa up to 10.30 p.m. And suppose it were regarded by members of the teaching staff (as indeed it already is for some members in some universities) as part of their job to be in the university a couple of evenings a week, among their students. Would arrangements such as these not go quite a long way to bring the benefits of community life into a civic university? If this much is admitted, the proposal is worth consideration, for it is by no means an ideal which has to be contemplated only on the horizon: it is a proposition which could be translated into bricks and mortar in a comparatively short time.

Already most universities provide lunch for the bulk of their student population in the middle of the day. Therefore the provision of dinner and late supper would in many cases be a matter of

extension of kitchen and storage facilities and an increase in catering staff. Already most universities can seat some of their students in libraries and club rooms during the lunch hour. Therefore the provision of ample study space—the "quiet, warmth, and light," and reference books, which the Murray Commission so rightly specify—is a matter of extension of library and union facilities, particularly of studies (similar to those provided at any boarding school), of alcoves in the library and clubrooms in the union, together with a small theatre, small rooms for gramophone recitals, and informal parties, and nearby squash courts and a swimming bath. It is a commonplace that such facilities as these are on the university's programme anyway.

Of course such a proposal as this (even if it is conceded that the proposal would achieve its object) would be expensive and it would be beset with administrative difficulties. But there is no doubt whatever that it would be far less expensive, per student accommodated, than any scheme of halls of residence for all students; and as to administrative difficulties, none could compete in intractability with the difficulties of finding labour and materials for halls of residence to accommodate even a thousand students. It would be necessary to persuade L.E.A.'s to include finance for two meals a day in their grants to students (but this would cost less than maintaining the students in halls of residence). It would be necessary to increase the numbers of service staff in kitchens, libraries, laboratories, and unions (but these increases in staff would be no greater than would be needed for halls of residence for all students). There would be knotty problems about overtime. There might even be opposition from members of the university teaching staff who do not take the functions of a university very seriously. There would be a minority of students (those who live 20–30 miles away from the university) who could not benefit from the facilities and might have to be exempted from the obligations. But these difficulties would be a challenge to the zeal of the universities as custodians of scholarship; for it cannot be denied that with all their insistence on high academic standards, the civic universities do generate in some of their students a "9 a.m. to 5 p.m." attitude to scholarship, solely because no facilities for the pursuit of knowledge are provided outside these hours. An army which provided no opportunity for training except for eight hours a day for thirty weeks a year would not be taken very seriously; yet the student

[*cont. on p.* 177]

DRAMA IN THE UNIVERSITIES

By Frederick May

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(*Has Drama any place within the university, any place, that is, as a subject to be taught ? For some years now this has been in debate. This brief excursion of mine is a footnote to the debate, most of which has not appeared in print. It should be superfluous but the sad fact remains that university authorities have not yet come round to facing the direct question. And this is all the less excusable since the student body for its part has clearly recognized its responsibility. Far too often the reaction of the authorities is an impatient dismissal of all dramatic activity as irrelevant and distracting. Not seldom is student work deliberately impeded, either by direct veto or by the provision of no facilities. Generally speaking, though, a worried neutrality obtains. It is my plea that a decision is now overdue, and I urge a favourable decision.*)

It is one of the more depressing of modern paradoxes that at the moment the living tradition of the theatre in this country should depend so nearly completely for nurture on the amateur and, in particular, on the university amateur. It would be difficult to find anywhere in Europe the same general unconcern for a commercial theatre of any quality.

We have no lack of competent actors, we have an average share of good producers in the professional theatre. We have, however, no true sense of responsibility among the financial controllers of our theatres and we have no dramatists—not even Mr. Fry can lay claim to the title (indeed that Mr. Fry should be hailed as the bright star of a new theatrical dawn is symptomatic of the terrible plight of British playwriting). Many reasons can be advanced for this lack, and one must surely be the resolute way in which the British writer has turned his back on contamination from abroad; Ibsen is revered, but disregarded, perfunctory obeisance is made to Strindberg, Pirandello is interesting, significant (but, of course, not *box-office*), Anouilh must be diluted, Brecht is ignored. The homespun product is preferred and a shoddy piece of work it is.

It is left to the insolvent experimental groups and to the more enlightened amateur societies to bring on to the stage those pieces by modern European playwrights which are of some quality and

which are capable of fertilizing our own native drama. (Much of what is produced is, of course, in the very nature of things, finally almost as valueless as our homespun works and its value must be said to reside in the glimpse it gives us of a living tradition of which we are a decayed limb.)

As I have said, the university societies, inevitably I would say, are to the forefront in this work. A fine repugnance must come to any man who truly undergoes the discipline of a university course as he contemplates the commercial theatre. And he finds it forced in upon him that it is his responsibility to oppose this not only passively by the simple act of non co-operation, but actively as well.

This idealism carries him far but brings him a burden of problems: he is ill-equipped for the intricate process of staging a play with conviction. He is no longer concerned with appreciating a work himself—for which he feels he is so well trained—he has to communicate all its values to that most incalculable of bodies, an audience.

The play assumes an unwonted complexity and he comes to the humbling realization that he himself received an impact which contained far more elements than he had troubled to differentiate. He had perhaps from a literary viewpoint analysed fairly deeply, but a play in production exposes such probing as pitifully shallow.

Drama and literature

So much is an obvious experience. There are two implications, and the first is one which is most unlikely to have been overlooked and so, one must conclude, has been ignored.

It is the sturdy practice in literature departments to treat drama, of whatever sort, simply as a form of literature, diverging in certain technical ways from other literary forms. Lip service—seldom is it more—is paid to its peculiarities. Most infrequently is any attempt made to explore all these peculiarities, to assess them and to grapple with what they imply.

They imply that our teaching is inadequate, they imply that we are trying to imprison an individual art within the framework of another. Great drama is almost always great literature and so we have made the easy step across the frontier and made the unqualified and false equation. Great drama, good drama even, is incomplete without its realization on the stage and this realization adds

immeasurably to the stature of the work as we know it in literature. It is a trial by fire, a convenient purging in which to shed our load of closet drama—whose proper and honourable place is in literature.

Any play other than this closet drama can only be said fully to live in the life it is given by the amalgam of actors, author and audience, and this is an ever-changing life in which the play can be seen to have a series of momentary identities, some approximating one to another, some sharply different. (Many modern playwrights have recognized this truth and have sought to increase the creative demand upon the audience. Pirandello, for instance, in his theatre trilogy has deliberately invaded the audience and, moreover, restored to the actors the exacting task of improvisation, calling upon both elements to accept their burden of creation.)

Responsibility to drama

The play then is a highly complex art form capable of being experienced finally only when seen in the momentary entirety that a performance bestows. It is foolish, therefore, if not dishonest, for us to treat our plays as we view them in the texts, regarding as a quaint extra (if we bother about it at all) even that paltry evocation of background and atmosphere that is aimed at in mention of costume and of manner, of playhouse shape and of type of stage. Quite often, too, the very language of the play is never considered as meant for speaking—or so one must assume from a prevalent lack of sensitivity to Elizabethan, Restoration and eighteenth century speech rhythms among students of dramatic literature.

It would do all students of literature and their lecturers incalculable good to perform every play they studied. Their mixture of success and failure in communication would be not the least of their achievements; few experiences are more salutary than the sense of utter despair when the most effective lines of the play are rebuffed by a wall of indifference or hostility or limply struggle to the footlights and topple into the silent abyss beyond. It is impossible to exaggerate the insight one gains in this way into the nature of drama. And more prosaically the effort involved in the creation of a character goes far beyond speculation and analysis in achieving the successful revelation of that character.

Unfortunately such experiences cost time. One possibility remains, that of being the auditor of performances of all the plays one studies and the only way that this may be achieved is by having

a company whose function it is to provide these plays, a company, that is, within the university.

This brings me to the second of the implications of which I spoke: it is that we can afford no longer to rely on this student work, excellent though it can so often be. For it is stumbling work, with so many problems left unsolved and more unguessed—an affront, in fact, to the standards by which we live. There is a poverty about the work in the final assessment, for while the student's literary training has developed his taste and given him some of the apparatus by which he may assess his worthwhile play, it has unfitted him in many ways for grasping the play and for bringing it fully to life. And so we have those productions rightly labelled literary, or contemptuously dismissed as missionary, but which are, nevertheless, such a boon and relief that we rebut the charge for fear of losing this mede of comfort in a philistine world.

The label can be detached. The university amateur must be trained in drama; that is, he must acquire a knowledge of all those techniques and skills which make up the basic equipment, together with the text, of the controllable part of a production. And he must be trained in drama within the framework of the university.

The suggestion is far from novel and has already been put into practice, but, to the observer, it seems only tentatively, and in this country mistrust is still the dominant sentiment. We need a bold recognition that the discipline of Drama is a valid one. We have found a place for Music and for Fine Art within our framework; Drama, too, is an art, so it must have the status of one.

There will be misgivings but once we acknowledge the independence of drama the rest would appear to follow. There is no argument against its admission to university status that is not applicable to the well-established music, and certainly none so damaging as can be levelled against some firmly ensconced technical subjects.

Scope of the department

It is not easy to define the scope of a department of drama. Just as we are always trying to reconcile the pursuit of truth for its own sake with the relentless—and almost furtive—production of teachers, so we are faced here with the prospect of producing practical exponents and the dramatic theorist. We have settled down to the first uneasiness, this is only a variant.

The department, I would suggest, should be concerned from the outset, with all aspects of the work: acting, production, stage-management, playwriting, practical criticism, the history of the theatre and of all its techniques and the place of drama in the field of literature. There should be provision for specialization within the department but never for such specialization as led to neglecting the discipline of the other elements.

Honours students in literature departments—and particularly those dealing with the literatures of modern languages—should work for a period in the department of drama. Conversely Honours students in the department of drama should work in two other departments in the university, and one of those, at least, should be a modern language department.

For general convenience it would probably be best for the department to make its home within the Faculty of Arts. It will, however, be readily appreciated that an extensive teaching of science subjects will be called for. And if we are sincere when we say that we are seeking how to give the Arts man an inkling of what Science means we must welcome this opportunity for going at least one step on the way to that end.

But there is a major gain to be achieved by instituting this department and one which invokes a most important principle. The teaching of drama will serve particularly to increase the creative side of the universities work. It is an increase long overdue and one could not wish for a more invigorating manner of bringing it about. Suggestions have been made in the past for the institution of departments of " creative writing " and of journalism—excellent suggestions for all the problems raised. Such departments would give welcome reinforcement to the slender creative output of our universities. Somehow, though, the prospect of such departments inspires more immediate doubts and far less excitement than one devoted to drama.

There are many good reasons. The production of a play calls for a co-ordination of individual and corporate effort of a very high order. This production is a vital organism which affects the society in which it is evolved through the individuals contributing to it and through its own totality. Few of us, particularly as students, can have escaped the contagion of the college or university play in preparation. The impact of a well-disciplined department of drama will be so much the greater.

As a subject enjoying equality of status it will at once pose the very pertinent question as to whether our literature departments are right in resting so firmly on criticism and appreciation and neglecting creative work so entirely. Again, much new light will be thrown on the nature of criticism. Students will have the splendid opportunity of being able to settle to the criticism of something that is living; they will be able to undertake the difficult task of catching the joy as it flies and not, as now, dissecting the chill form so decently laid out on the printed page. It would be superfluous to point out how the enquiring mind will move from this to other fields and will find, for instance, what is rare as yet, an honest desire to know how a modern poem is brought into being or why the modern novel is so perversely as it is. The argument finally is for the awakening of curiosity.

I have touched on the paradox that the universities, really concerned so little with creative work, should, through their drama societies, be the custodians of the worthwhile theatre. By assuming the responsibility fully, by recognizing drama as a true university subject, they will earn little but scorn from most parts of the commercial theatre, but in the long run they will, I am convinced, radically alter it. It is depraved in that it has no concern for its obligations, and it must be reformed. And if the straws in the wind mean anything, consider the tacit implications in the establishment of the Old Vic Theatre School, of R.A.D.A. and of similar bodies.

The effect of university teaching is probably slight and almost always slow in manifesting itself. But it always does manifest itself, and the universities will here slowly and surely re-educate both the purveyors of drama and the critics of that theatre—critics, that is, in the widest sense of the informed audience relating the quality of the work they are experiencing to certain standards, measuring it against them. And these critics are to be the school-teachers and technicians, journalists and industrial scientists of the workaday world of to-morrow, so that soon we may hear and see less of what at present dominates the theatre and more and more that is of value.

We must, however, first recognize that we are indeed stunting our cultural growth by neglecting, and in certain quarters refusing—to allow drama to play its proper role in university life and consequently in the life of the nation. I am far from considering the universities as cultural arbiters of oracular authority. The stubborn

fact remains, none the less, that nowhere else is there the freedom, the leisure and the possibility of the apparatus that alone enable the proper consideration of culture. Like Christina's *Arcadia* we are in danger of studying only the problems of the culture of past ages while the whole sea of the knowledge of what is being created around us lies undiscovered. If our percipience is to mean anything when it is achieved it must mean that it can be used to live by now and in the past. That is our privilege.

I have, perhaps, pursued my implications rather far. I think, though, that they must be seen in order that the essential seriousness of the proposition and of the lack it proposes to remedy shall not go unremarked. I have deliberately not sought to elaborate any minutely detailed scheme for setting up the departments I advocate. Each university has its own particular genius, each must integrate its new work in its own way. I do not think that mine is an outrageous proposition; indeed it is one characterized by sweet reasonableness. All of us must be troubled by the state of the British theatre, all of us must be aware of the grave shortcomings in the work on drama in the universities, and we must all be concerned at our neglect of creative work. I think this proposition offers the first step towards a general betterment.

I have deliberately approached the problem as a general one. Of necessity I have not attempted to debate the arguments contained in the *Report of the Oxford University Drama Commission* (Oxford, 1948). The scope of this report was carefully limited and its general implications, though interesting and frequently challenging, were urbanely limited ; indeed, one could well quarrel with the authors of the document for their excessive and studied caution. I have preferred, too, not to discuss the venture at Bristol University, which is still severely restricted in aim and so very much in its infancy as to disarm criticism and to command more prolonged consideration. One must wonder, however, whether this pilot experiment is not on too small a scale for profitable results.

PSYCHOLOGY APPLIED TO THE TEACHING OF PSYCHOLOGY

By O. A. Oeser

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This article describes very briefly the steps taken to introduce new courses at Melbourne University during each of the first five years of the existence of the department of psychology. The functional aspects are discussed in detail, since the novel features of the department reflect certain theoretical assumptions in social, educational and industrial psychology. These assumptions have determined many of the detailed procedures in the teaching process: the extent of experimental, clinical and field work; research training; syndicate work, staff-student relations; the tutorial system; selection and training of junior staffs; and the extramural relations of the Department.

History

The University of Melbourne, founded in 1853, is the only university in the State of Victoria (population 2½ million) and is situated near the centre of the city of Melbourne (population 1,100,000). The total student population in 1950 was 9,000. The University has the following divisions, called "faculties": arts, science, medicine, law, dentistry, engineering, music, education, architecture, commerce, veterinary science.

The department of psychology, founded in 1946, is a part of the faculty of arts and is also closely connected with the faculties of medicine, science and education.

The academic year begins in March and ends in November.

The first teaching course was announced late in March, 1946, and 280 students enrolled for Psychology, Part I.

In 1947, Psychology, Part II (collective behaviour, industrial psychology and psychopathology) was established.

In 1948, Psychology, Part III, was added. It was hoped to be able to give full specialty courses also in child and developmental psychology and in comparative psychology; but difficulties in accommodation, increasing financial stringency, and an acute shortage

of trained psychologists in Australia made this impossible. A "full specialty course" means three hours lectures and tutorials, and six hours laboratory and field work per week throughout the year (25 weeks) as a minimum requirement. Some 650 students were between them taking 868 courses, for a student can take to or three courses (except in his first year). The number of psychologists who in each year take the full six-course training is now becoming stabilized at about 35.

In 1949 provisions were made for the degree of Master of Arts. The requirements are full-time work on a thesis and attendance at seminars. These aim to give the student a synoptic view of the major fields of human activities and interests. The heads of the departments of biology, philosophy, history, anthropology, law, political science, education, languages (English), and fine arts each conduct three two-hour seminars on the fundamental problems, methods and theories in their fields.

In 1950 a "Child Guidance Centre" is being designed and built. This will provide a psychological service for the community and serve as a centre for teaching, research, and advanced refresher courses in clinical psychology, including remedial teaching and play therapy.

The *staff* in 1950 consisted of one professor, five senior lecturers, four lecturers, three senior tutors (*i.e.*, junior lecturers) and ten tutor-demonstrators.* In addition, twelve non-academic professional psychologists and four psychiatrists give part-time tutorial assistance. The full-time staff also provides special groups of lectures for medical students, speech therapists, youth leaders, the Council for Adult Education, and for the School of Education in Educational Psychology and Experimental Education. Several members also act as honorary psychologists at Melbourne hospitals.

The courses of the department, like all arts courses, are open to students who do not seek a directly vocational training: but the department's main function is the professional training of psychologists, together with training in pure and applied research, with courses in psychology for students in other schools for whom psychology is a required or an ancillary subject (*e.g.*, social workers), and with psychological services to the community.

* These titles are roughly the equivalents of professor, associate professor, assistant professor, instructor and graduate assistant at American universities.

The goals of the programme

Three principles underlie the work of the department:—

1. Teaching must take place in a "democratic climate". That is, the learning activities of the students must be task and student centred, not teacher centred, as is the case in most schools.

2. The development of theory must go hand in hand with practice.

3. Barriers to communication and co-operation must be broken not only between students and between staff and students, but also between the psychology department and other departments in the University, and between the psychology department and the outside world.

The application of these principles to practice means:—

(*a*) Students work in small "syndicates". This gives practice in team-work and setting group goals during the acquisition of knowledge, lessens tensions between staff and students, reduces anxieties because there is little competition between students, and very greatly raises levels of achievement.

(*b*) Laboratory, field and clinical work are inseparable in all courses.

Secondly, design of experiments and quantitative treatment of data are simply regarded as necessary aspects of training in in psychology. We have therefore given up lecturing about psychometrics, except to review fundamental methodological concepts.

(*c*) Although all psychologists at the University are at present members of the psychology department, there is active co-operation between it and other departments. A major undertaking in 1950 has been a joint study of the city of Prahran (a suburb of Melbourne) by some staff, a special research staff, and senior students of the department of psychology, the faculty of architecture and the board of social studies, for the purpose of making a comprehensive town plan. The scheme is financed by the City Council.

Contact and co-operation with the community is also assured in other ways. Students observe and work in hospitals, industries and schools as part of their training in field work, clinical work and vocational guidance; non-academic professional psychologists serve

as tutors, and liaison is maintained with press and radio on those matters of public concern relevant to psychology.

Teaching : structure, content, and process

1. *Structure.* The full-time student requires three years to take the full degree in psychology. As from 1950 the Honours degree will take four years, the Pass degree three.

The Bachelor of Arts degree in psychology consists of:

First year	Psychology I and three other first-year subjects;
Second year	Psychology II and two specialties, minor thesis;
Third year	Psychology III and one specialty, major thesis;
Fourth year	Thesis and further diagnostic practice.

There are four "specialties": collective behaviour, psychopathology, applied psychology (industrial), and theory of statistics. To be considered for the degree with Honours, a student must obtain Honours in Part III and in at least three other psychology courses.

The M.A. degree, which must be preceded by the B.A.(Hons.) degree, is gained by thesis and oral examination. Candidates are required to attend seminars and advised to take courses that will extend their background.

Every course consists of lectures, tutorials and practicals. The ratio of lectures plus tutorials to practical work is 3:2 in the first year, 3:6 in the second and in specialties, and 3:12 in the third. In addition, second and third year students must carry out an independent empirical investigation and present it as a thesis. What "practical work" entails is described below. The reasons for insisting on an *empirical* investigation are: first, that theoretical work is presented by students for discussion in tutorials; secondly, that as the investigation is part of training in research, bibliographical studies are of necessity included in it. Each student has to submit a laboratory book in which the experimental work done in the laboratory is written up and integrated with his theoretical knowledge and reading of the specialist literature.

2. *Content and Process*

(*a*) *The "core" courses: Psychology Parts I, II, III*

Broadly speaking, the core courses contain the more abstract theoretical parts of general and experimental psychology: the content

of the specialties is for the moment sufficiently indicated by their titles—collective behaviour, psychopathology and applied psychology (industry).*

One of the traditional aspects of teaching psychology has been the emphasis, especially in the first year, on sensory and physiological psychology. In this department, throughout all courses, the emphasis lies on man as a social organism, whose responses have for the most part been *learnt* in a social environment. Moreover, one of the principles of teaching is to proceed from the known to the unknown and from the concrete to the abstract. All students know from first-hand experience about many important psychological processes and functions.

Another traditional aspect is the time-honoured academic belief in arts faculties that students learn through being lectured to; this has kept psychological teaching over-verbalized.

These considerations give us three guiding lines for the content of the core courses. Phenomenological description and analysis of the macrostructure of behaviour must precede the study of microstructure or "elements"; the study must from the beginning be based on active exploration, *i.e.*, experimental, clinical, and field work; experimental and psychometric treatment must receive greater emphasis than lecturing.

The general scheme of the "core" courses, then, runs somewhat as follows. In Part I the student is introduced to the major fields of psychology by way of lectures, and is then plunged into systematic experimental work, with associated training in elementary descriptive statistics. Contrary to accepted practice, we start not with the elements (such as heat spots or colour vision), but with facts of the student's immediate experience: that perception is selective, that remembering is subject to transformations in which social settings and the past history of the subject play a part, and that individual differences manifest themselves in each psychological experiment. Discussions immediately following the first broad demonstrations at once raise certain questions from which some tentative hypotheses are formulated, which determine the layout of the next experiment. This in turn raises new questions and so on.

The notion of experimental control thus arises out of the data and each succeeding experiment is more and more rigorously

* Theory of statistics is taught in the department of mathematics.

controlled. The psychophysical methods and problems such as threshold measurement and quantification thus emerge as methodological necessities. Increasing control finally leads to the realization that in psychology one can control too rigorously. If one does, the results may be "general", but may have little relevance to *psychological* problems.

While this is going on, the student also begins tutorial work in a group of 12-15. After he has mastered the problems connected with experiment and quantification, he proceeds to discuss broad topics of general interest: race psychology, delinquency, propaganda and communication, and the like. He has to read widely and read clearly. The tutorials are not designed to chew over again matters dealt with in lectures; and there are no "quizzes".

Throughout, two theoretical aspects are emphasized: methodology, and its concomitant, the dispassionate study of behaviour; and individual differences. It is the existence of individual differences that determines the main "theme" of the course: the study of the *structure* of personality and its measurement. Towards the end of the year the social determinants of personality are treated.

In Part II the theme is the *development* of personality. The practical work is concerned largely with systematic analyses of learning theory. Psychometric techniques dealt with are tests of significance, and elementary theory of variance. And the student is introduced to the systematic assessment of the developing personality by way of thorough training in interviewing, and in the Binet and other tests suitable for children. Each student now has to write a small thesis based on empirical work in the field.

In Part III, the theme is "personality". Here structure, function, and development are studied at higher levels of abstraction. In particular, perception and the social determinants in perceptual processes are experimentally analysed, and the student is introduced to the methodology of assessment of the adult personality. Analysis of variance and factor analysis are the main statistical techniques taught through work periods and laboratory syndicates. It is here that the history of psychological theory is discussed, since we do not like rote learning and believe that the historical combats between "rival" theories attain meaning and significance for the student only after he has had first-hand experience of psychological problems.

Syndicate work has become the normal teaching device. There is enough evidence already to show that in syndicates each student

works at a level of aspiration far higher than that which he sets himself when working alone. In addition, a value of syndicate work lies in the social training it provides.

(*b*) *The "specialties"*

Of the four remaining courses, one is taken in the department of mathematics by psychology students with a special interest in and qualifications for statistical and psychometric theory. The remaining three are built on the concept of the social applications of psychology. One, collective behaviour, is regarded on the one hand as the "core", on the other as that division of the psychology department in which new experiments in teaching psychology are carried out (such as syndicate work, group planning and decisions) before they are introduced into other divisions. Let us consider the three specialties briefly in turn.

(i) *Collective Behaviour*

The students themselves are expected to master the factual contents of such texts as Murphy and Newcomb, LaPiere and Farnsworth, Klineberg, Hartley and Newcomb, with the help of their own discussion groups and in tutorial sessions. Lectures, practicals and field work cover the main concepts of descriptive and cultural anthropology, empirical sociology (*e.g.*, the "Yankee City" series, the British Social Surveys and books such as *Caste and Class in a Southern Town* and problems of mensuration from public opinion polling to attitude scaling. In the laboratory, experimental work is carried out on social factors influencing behaviour (*e.g.*, "levels of aspiration" in individual or team work) and on methods of observing, classifying and analysing behaviour in a social setting. Students are given special training in field interviewing, first in theory and through role playing, and then through participating in a field research project. In 1948 a study of attitudes to immigration and to anti-semitism was made. In 1949 and 1950 the major research projects were the study of Australian urban and rural social structure, with special emphasis on the family and its internal tension systems; a study of child rearing and the development of social attitudes and stereotypes; and further comparison of attitudes to immigration with class positions and status. These studies all form part of the UNESCO Tensions Study.

The course requires four two-hour sessions per week. The distinction between lectures, tutorials and practical work has been

abandoned, each session being treated as a "workshop". This method of combining teaching, training and research is hard going for the staff. But the method seems to be very successful for this kind of subject.

(ii) *Applied Psychology (Industrial)*

This course covers the fields of psychology applied to industry, the main emphasis being on the social relations within industry and between industry and the community.

The practical work is based on test construction, vocational guidance, and the social definition of "a job". Thorough vocational guidance case studies and job studies are part of the requirement. The old-fashioned "efficiency-engineering" approach to industrial psychology, as exemplified in most text-books, is treated incidentally through some laboratory work.

(iii) *Psychopathology*

The course concerns the theory of psychopathology, and the clinical practice of psychologists. Tutorials are concerned with case discussion and elucidation of theoretical points, and are conducted by practising psychiatrists. Field work is done in hospitals and mental hospitals, experimental work in the laboratory.

Special attention is given to the theory and practice of projective techniques, the clinical interview, and detailed case studies of problem children and neurotic adults.

As in the other specialties, field work notes and clinical testing notebooks have to be submitted for the final examination, which is followed by an oral examination. As soon as the department of psychology has its own clinic, the work of this specialty will also be built around a combined teaching and research project.

Selection and training of staff

Since psychologists are supposed to know something about the principles of teaching and learning, a good deal of attention is devoted to the selection and training of junior staff. The staff group is regarded as a number of "syndicates", and many hours of work and formal discussion are devoted each year to the questions: "What is Psychology?" "What do we want to teach and why?" "How shall we teach it?"

At present, all psychologists within the University are members of the staff of the psychology department, which is represented on

almost all faculties and boards of studies. Some of our distinctive methods are gradually being applied to the teaching process in other departments, and in 1950 joint research projects in city planning were undertaken with staff and senior students of the faculty of architecture and the department of social studies.

The external relations of the psychology department are far more extensive and complex than are those of other faculties such as education, commerce or medicine. Relations have to be maintained with the State Education Department, its schools and teachers' colleges, hospital and clinic boards, the State Department of Mental Hygiene, the Commonwealth Office of Education, the Commonwealth Employment Service, the Psychology Services of the Armed Forces, and industry and commerce.

Concluding remarks

I am well aware that many of the procedures described in this paper find a place in other Psychology Departments. My aim has been three-fold:—

First, to announce the establishment of a new Department and to give our colleagues elsewhere a chance to assess its scope.

Secondly, to show that we have firmly set our face against that over-particularization of psychology into a collection of short courses which in some universities has led to the provision of twenty and more different courses. We prefer to treat psychology as a whole, and its study as a continuous development.

Thirdly, to maintain that no effort should be spared to teach psychology well, and to make the student aware of the dynamics of the teaching and learning processes. The professional psychologist at work must always be a teacher. The psychologist cannot, for instance, change teaching methods in schools. The teachers must do that themselves. Just as in vocational guidance he does not direct a person into a job, but diagnoses, presents the facts to the candidate and his immediate social group, and helps them to understand, so he cannot direct teachers or employers and make them assume new roles. He must be a counsellor, or teacher.

THE UNIVERSITIES AND ARMY EDUCATION

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In order to appreciate fully the scope and purpose of the contribution made to army education by the universities, it would be necessary to outline the full plan of army education and to examine the problems inherent in any system which attempts so wide and varied a field of labour among such a diversity of creatures. I propose, however, to restrict my comments on the system of army education to a very brief statement of its aims and a simple outline of its broad pattern. From this broad pattern will naturally emerge the point at which civilian aid of all types and university help in particular should be introduced. I then propose to give a more detailed analysis of the contributions which the universities can effectively make.

In the Handbook of General Education 1948 (Provisional) issued by command of the Army Council is laid out quite clearly the broad scheme of army education together with a broad three-group classification of the types of work to be attempted. Stress is rightly placed on the challenge and opportunity presented by the problem of catering for the needs of so many young men of widely diverse interests and backgrounds at a time when they should be developing flexibility of mind. I am doing less than justice in this brief summary to the well presented case which is outlined in the Handbook but I have not the space to give the statement in full. I content myself, therefore, with a statement of the three main groups of men and women for whom educational provision has to be made. These groups are:—

(*a*) Men and women who can make but little practical or effective use of the written word.

(*b*) Men and women who have not reached School Certificate or equivalent technical standard.

(*c*) Those of School Certificate or Higher Standard.

It will be readily appreciated that this necessarily broad classification cannot cater for individual attainment or need though it does permit of a division into streams within which more specific gradings can be made.

To cater for the needs of these three groups of men and women the Army Education Scheme plans three types of education—preliminary, general, and individual. Both preliminary and general education are within the normal compass of R.A.E.C. instruction and some of the requirements of individual education can also be met from R.A.E.C. resources; but it is in the more specialized field of individual education that the resources of the R.A.E.C. are inadequate.

The field of endeavour

It is plain that the contribution of the universities to army education must lie in the broad group of individual education at the point at which the individual has educational needs other than those for which the R.A.E.C. can normally make provision. At this point I feel that stress must be laid on the type of work which the universities may properly be expected to do. It may quite simply be defined as being work of the quality and of the standard which the university would provide in its civilian field. This I regard as a matter of principle on which the universities must stand firmly. The alternative would probably be that, as in the days of the War-time Regional Committees, the universities would soon be looked on as universal providers of every type of tuition which the R.A.E.C. could not provide, irrespective of standards and divorced from the traditional rôle of the universities.

The help which the universities might fairly be asked to provide may be divided broadly, thus:—

(*a*) The provision of tuition for soldiers who have obtained a School Certificate or higher qualification and who intend to proceed to a university, or to professional studies of equivalent standard, on the completion of their National Service. These are, of course, men who, but for the National Service Act, would have been admitted to universities or would have begun academic training of a similar standard at the age at which they have now come into the army.

With this group must be linked men who have already graduated and who, having been permitted to defer entry into the army until completion of a university career, need intellectual stimulus and refreshment.

(*b*) The provision of instruction in educational method to young Royal Army Educational Corps Instructors who are in

possession of the School Certificate, or Higher qualification, who have in most cases planned to proceed to university and training college on completion of National Service, and who have had an all too brief introduction to the principles of teaching while at the Army School of Education.

Another special commitment and one which calls for the closest liaison between the army educational authorities and the universities is the training of regimental officers in discussion group work. Only those aware of the problems of handling the young soldier can appreciate the value of this discussion group work in developing that sense of mutual respect and dependence which is so vital to the spirit of an army.

In this field the experience of mature tutors is of the greatest value and the universities can help the army in ensuring that young officers, themselves of an age with the men they command, bring their home and educational background and experience to the service of men many of whom are less fortunate. The planning of sound courses developed in an atmosphere provocative of thought and stimulating of interest is a challenging task and one for which the university is particularly well suited.

(*c*) The provision of instruction in international affairs, modern languages, and science to officers who aim at the high standard demanded of Staff College candidates, that is to say from officers skilled in the science of war, or trained in military administration who are selected to pursue studies calculated to fit them for the highest executive and administrative posts in the army. There are, too, officers whose interests and aptitudes lie in the field of modern languages and who may well become military attachés, or who in war may be interpreters. The quality of the studies followed by these officers is of the utmost importance to the army and indeed to the nation and it is clear that the university is the institution from which such liberal education must come.

Opinions differ as to which of these three main tasks is the most important and as to the order in which they should be placed, should it prove impossible to tackle all three at the same time. Obviously all three tasks are permanent; they are inevitable in the modern army with its high incidence of changing personnel; and, while it is possible to regard some of the demands in group (*c*) as seasonal, since they are specifically related to annual examinations, it is clear

that sustained courses are from every point of view better than short courses of study designed to meet the requirements of an examination syllabus. In point of fact the whole principle of university help in this field should be based on liberal studies rather than on short-term cramming courses which at best can only produce officers well informed in a very narrow field.

An examination of group (*a*) shows that in technical or near technical arms of the army some 10 to 12 per cent. of the men coming into the army have attained School Certificate standard or above and of this 10 to 12 per cent. some 40 per cent. are destined for university careers and another 40 per cent. intend to pursue professional studies. The remaining 20 per cent. have not thought beyond the attainment of the School Certificate standard, and experience shows that most of them have given no thought to the future and have, in fact, regarded their period of military service as a period of banishment from their pre-service interests; they often quite openly state that both they and their parents propose to do nothing and to plan nothing until they have completed their two years of National Service. Even those who have, in fact, made plans for university or professional training, in many cases look upon their period of military service as, to a great extent, wasted time, certainly wasted time in terms of their education; and many of these men are deeply concerned at the prospect of two years in which, so they believe, they can do little or nothing to further their knowledge or for which there can be no satisfactory educational provision.

It is with this group that I feel the university can do its work with greatest effect. At the very outset of the young man's military service he should be made aware that university tuition is available to him and that the responsibility is upon him to take advantage of the service provided.

Here I feel the university has an important task: that of interviewing and advising those men who, having the requisite standard of education, are either uncertain of their future or have already prepared themselves for two years of intellectual aridity. Every soldier is interviewed in the early days of army life by an R.A.E.C. officer or instructor so that he may be placed into one of the three groups already outlined, but once a soldier has been placed in the individual education group he needs a more personal and specialized interview and experience has shown that the university interviewer

and adviser is able to stimulate and advise with greater success than is a military interviewer.

Meeting the demand

The next stage is to ensure that the type of study requested by the soldier and approved for him by the interviewing tutor is available and that there is established as soon as possible a personal contact between tutor and student. This early relationship is most important, for it is vital that the habit of study in the difficult circumstances of communal life should be established early in the soldier's new life. This contact is best established if the university aid is autonomous, if there is careful liaison between the R.A.E.C. and the tutors and, apart from the essential military administration, if this whole field of individual education is catered for by the university tutor with such aid in any special field as the R.A.E.C. may from time to time be able to provide. Frequent postings and changes of R.A.E.C. personnel make it impossible to cover the broad aspects of science and the humanities from R.A.E.C. resources and, apart from the known high standard of university work, the continuity which the civilian tutor can guarantee is an element of the greatest importance.

It is clear that the methods by which universities can make this contribution to army education ought not to be defined too precisely; for each university has to tackle the problem set by the incidence and distribution of soldiers in its own extra-mural area. The most effective contribution can be made when troops can be brought in from scattered units to central education centres where the tutors can be given reasonable accommodation and where small tutorial groups can be formed regularly, thus economizing the time of the tutors.

The provision of instruction in educational method to young R.A.E.C. instructors and the training of young regimental officers in discussion group technique are contributions which demand careful liaison and planning between the universities and the army. Here again the problem will vary markedly from university to university and only those universities in whose areas are stationed large concentrations of troops can undertake this work. There are in this work two distinct considerations—the lack of technical skill on the part of the young instructor or officer and the challenge presented by so varied a content in the classes or groups to be

catered for. On the university side lies the responsibility of ensuring that the men they select to work in this field are of wide experience in method and, equally important, appreciative of the problems of army education. When men of these qualities are used the response is extremely heartening. The reaction of students to civilian tutors is not unnaturally favourable, for at least there is a change of approach and atmosphere, and there is, too, the feeling on the part of these students that this type of work demands individual qualities not so obviously demanded in other fields of training.

International affairs and modern languages for Staff College candidates are studies in which the specialized knowledge and experience of university tutors are required. Both studies demand training and direction which is beyond the provision of the R.A.E.C. These studies are in demand wherever there is a concentration of troops. The present international situation, with its complexity of detail, requires a very high standard of teaching and one which the universities alone can provide.

This somewhat sketchy outline is manifestly inadequate to the presentation and development of the case for the necessity of university aid to army education, but while each separate contribution merits far more detailed consideration than I have given it, I have tried to indicate that the ambitious and worthwhile plan of army education must rely in some of its phases on the fullest co-operation with the universities.

My brief survey has, I fear, indicated too rigid a pattern of university contribution and I would stress that just as the contribution of each university must vary with the incidence and distribution of troops within its extra-mural area, so will the subject demand vary with the type of units contained in the area. A predominance of technical units will throw up a demand for mathematics and applied sciences, while non-technical units will demand a wider and less predictable group of subjects as diverse as European history and speech training. The contribution of the university, though broadly predictable, must be designed on flexible lines with both full-time and part-time tutors making contributions.

A Note on an Alternative to Halls of Residence [*cont. from p.* 154.]

gets the impression (often, let it be said, without foundation) that the university is content to do no more than this in defence of the kingdom of the mind. It may be worth while to suggest, therefore, that the "prime object of university policy" should not be so narrow as the provision of halls of residence; it should rather be the establishment of the principle that tertiary education is a full-time job, needing the student for all his waking hours. And if this much is conceded, it may be worth while to enquire whether the £250,000 necessary to provide residence for 150 students could not in fact provide accommodation up to bedtime for five times that number of students, and so accomplish, without serious loss of efficiency, what the university aims to do in its ambition to provide halls of residence.

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REVIEWS

TESTAMENT FOR SOCIAL SCIENCE. *By* BARBARA WOOTTON. (Allen and Unwin, 15*s*.)

How ever the title of this book should be interpreted, Professor Wootton is discussing important and exciting questions, and the whip of her style has kept its characteristic flick. She dislikes philosophers and she dislikes Christians; and she thinks that scientific method is the only method by which anybody has ever discovered anything. She pleads for a fearless and vigorous application of scientific method all along the line to human affairs.

Broadly speaking the author is not writing for her fellow social scientists; she is not interpreting for them what they are doing, or trying to help them to think out how to do it better. If the layman reads it with the expectation of gaining the insight, which Professor Wootton could brilliantly have given, into how the trained social scientist gets to work and what his difficulties are, the layman will be disappointed.

No, she seems rather to be defending social science against enemies, and she seems to feel that the best method of defence is attack. The main enemies appear to her to be the Christians, with the philosophers quite a good second, and Marx and the Marxists a sort of fifth column. Because of the method used the reader will be led to think a good deal about Christians and philosophers, and a little about Marxism, but not very much about social science.

Her argument in fact, so far as I can judge it, is of a general philosophical character, owing something, as she says, to Mill and Comte and Bentham; it owes little or nothing to her experience or expertise as a practising social scientist. In so far as it is technical its technique is philosophical.

Though the author has little sympathy for philosophy, she gives a clear account of what she takes it to be. The philosopher asks questions—about God, freedom and immortality, as it may be—to which it is not possible to give other than speculative answers. It can be a disciplined pursuit, since any genuinely philosophical answer is required to satisfy certain rules which are accepted among philosophers. It may therefore be difficult and have a mind-training value ; but it is not a satisfying activity, since to the questions asked no certain answers can be arrived at. Still, no doubt there will always

be persons who succumb to the urge, deep in the human mind, which moves to philosophy.

The scientist on the other hand has a liking for questions which can be answered. Part of the skill of the scientist lies therefore in getting away from questions which cannot be answered to questions which can; and part of it in finding a way of answering by scientific methods questions of a kind which have not been so answered before. The greatest men of science, to judge from autobiographical writings, have often felt that in the end of all they have not answered the questions that they would have liked to answer. But Professor Wootton is right in saying that as scientists they kept their attention upon answerable questions. Their greatness lies in the fact that while discovering what they could rather than what they would, they never lost their sense of direction, their vision of the ultimate goal, but constantly sought to edge their questions, as it were, towards the things that we really want to know.

Probably everybody, by no means excluding Christians, wishes to see more great scientists working in the field of human nature and human affairs. If it is fundamental to science, as I think it is and as I think Professor Wootton agrees, to measure, there are immense difficulties in the way. To take one instance, how are you to tell by measurement how much good is done to the advancement of human knowledge by the close questioning of a particular young man or young woman about his or her sex life; and how much good or harm to the young man or woman? (The answers given to these questions by most social scientists would, of course, be *a priori*; but that is not seriously to the point.) But again and again the great problem for physical science, whether pure or applied, has been to find the right thing to measure if advances in knowledge were to be made. So no doubt we ought not to be discouraged.

A point in the argument where most people will find it more difficult to go all the way with Professor Wootton lies in the gap—broad as it seems to most of us in the atomic age—between science and art or craft, between the science of human nature and the craft of politics or the art of living. Professor Wootton is a believer in the extreme form in the view that to know the facts is to know what to do, and indeed to do it. I doubt whether many parents or teachers will agree with this. I did not believe it myself so long ago as when I was a prefect at school. I felt that some of my fellow

prefects with less perception and understanding were better at the job.

Professor Wootton is very hard on those who think that good cannot be done without love. She thinks that nothing is necessary but scientific knowledge of how the human wheels go round. She states her case beautifully. But I do not think she is right either about knowing or about doing.

C. R. M.

A CRITIQUE OF WELFARE ECONOMICS. *By* I. M. D. LITTLE. (*Oxford University Press*, 18*s*.)

This is certainly the most important book on economics to be published for many years past. Written by a young Oxford philosopher turned economist, it makes brilliant and decisive use of all the weapons of the modern linguistic school of philosophy for a sustained assault on the accepted theories of welfare economics. It is a perfect example of what is clearly the proper function of philosophy: to concern itself with other subjects, and submit to the most rigorous and critical inspection the logical and linguistic foundations on which their superstructure rests. This is what Mr. Little does for welfare economics, and at the end there is little but dust and débris left. Some of the débris, it is true, is that of fallen idols, since the book is pleasantly iconoclastic, and Mr. Little uses his big stick right and left with a total disregard for established reputations. But the whole foundations of the subject are also pretty thoroughly destroyed, since Mr. Little is on ground where his technique is much superior to that of his opponents. He makes the most subtle and refined use of his sharp-cutting logical tools; and the pithy and confident style, and a sense of realism unusual in writers on this subject, heighten the impact of the book still further.

The precise object of his attack is the so-called New Welfare Economics, so fashionable and so dominant in recent years, which thought, by abandoning a cardinal approach to utility and the use of inter-personal comparisons, to have constructed a system more logically watertight than the traditional ones of the Utilitarians or Professor Pigou.

Mr. Little shows that they did not. He first attacks the indifference-curve theory of demand, on the ground that it assumes (like the older marginal utility theory) consumers who maximize satisfaction,

and therefore can only explain the behaviour of satisfaction-maximizers. This must leave out a very large segment of human behaviour; and the only safe course is therefore to drop all phrases (such as likes or dislikes or satisfactions) which require a subjective explanation, and adopt instead a purely behaviouristic interpretation. He next demolishes the thesis that inter-personal comparisons are inadmissible because they are value-judgments and not statements of fact, and is then led on, by way of a general discussion of value-judgments, to what is really the crux of his whole argument.

This is that the language of welfare economics has been, but is not admitted to have been, largely emotive and persuasive: that phrases such as the " welfare " or " happiness " of the community, besides admitting of neither verification nor argument, must contain a strong ethical and recommendatory force: that both the premisses and conclusions of welfare economics must therefore be considered as value-judgments couched in strongly persuasive terms: and that its claim to be a precise and objective science, from which can be derived self-evidently right courses of action, is entirely false and misleading. It is not that Mr. Little objects to such value-judgments underlying economic recommendations; he objects only when they lie concealed, and when therefore the recommendations carry the false authority of scientifically determined truths. Indeed, he himself, on the basis of two openly expressed value-judgments, formulates a set of sufficient criteria for saying when a change is economically desirable or not. These criteria, with the value-premisses, provide a set of new foundations for welfare economics which is without doubt logically and philosophically sound.

But, however newly watertight the foundations, is the system really of much use in guiding policy? Probably not. The first difficulty is one which Mr. Little is right to stress, since it has been so scandalously neglected by his predecessors. It is that everything depends—even his own formal criteria—on a prior judgment about the distribution of income. It is really quite fantastic how long it has taken people to see that all the confident and pontifical statements of economists (not to mention economic journalists) about the " best " or " efficient " or " economic " distribution of resources are meaningless unless distributive effects are considered. Virtually every economic action affects the distribution of income. Views about what distribution is good and what bad are purely a matter of personal opinion; and the economist can therefore seldom or

never say that an action should or should not be undertaken—unless there is prior agreement on what the distributive effects will be in fact, and whether these effects are good or bad.

The other point is one which takes up the second half of the book. This is an attack, on grounds of realism, on the elaborate set of optimum conditions of production and exchange which has been built up by welfare economists on the foundations discussed above. These optimum conditions have been held to provide the detailed criteria for desirable economic changes, and more generally for the optimum or most efficient distribution of resources. Mr. Little, following here a more familiar path, has no difficulty in showing that most of these conditions are hopelessly remote from the real world, and that it is quite ridiculous to try to fulfil one condition on the assumption that the others are fulfilled when in fact they never are. To take a topical example, it would only be " correct " to adopt marginal-cost pricing in the nationalized industries if there were no income-tax nor indirect taxes nor subsidies, if all productive factors were in perfectly elastic supply, if there were no adverse effects on income-distribution, if there were no external diseconomies of production or consumption, and if eight other improbable optimum conditions were also satisfied. And when, in addition, the existence of indivisibilities requires the measurement of areas under curves, the whole structure of the optimum conditions becomes a pure farce, intellectually amusing, but practically quite useless.

After a second reading of this book, three reflections stand out. The first is that we must at once take measures to reverse the increasing trend towards academic specialization. Many of the errors of the economists whom Mr. Little attacks would have been avoided had they had a more thorough grounding in the methods and techniques of modern philosophy. There are now few subjects which can be seriously studied without such a preliminary training.

Secondly, there is no doubt that Mr. Little has killed welfare economics very dead indeed—a most brash deed for so young a man. He has made his case, and the verdict is clear. Traditional welfare economics is found guilty—of using concealed value judgments and persuasive terminology, of posing as a science by suggesting a degree of objectivity and precision (in the measurement of happiness) which it does not and cannot possess, of ignoring the dependence of its recommendations on prior judgments about the

right distribution of income, and of investing with an aura of mystical significance a set of optimum conditions of sublime irrelevance. And although Mr. Little, loyal to his cloth, does set up his own more firmly based criteria for right action, they are so broad (quite apart from their dependence also on income-distribution judgments) that they would only apply in cases obvious and extreme enough for even the layman to see the right course without much difficulty.

The third reflection is that this book should be carefully read (or at least the half of it which is non-technical and non-mathematical) by others besides economists—by politicians, administrators, and all concerned with political economy in the widest sense. Many intelligent laymen have absorbed just enough of welfare economics to make them very free with phrases such as the " efficient " or " economic " use of resources, but much too little to enable them to know the innumerable conditions necessary for those phrases to have any meaning. A perusal of Mr. Little's book would put them right, and enormously improve the standard of public discussion of economic affairs. One has only to think of recent arguments, so popular with some pundits in weekly economic journals, about how the abolition of food subsidies, or of physical controls, would lead to a more efficient use of resources. There would be a notable and welcome diminution in the amount of careless talk about the virtues of the price-mechanism, or the invisible hand, as methods of achieving some economically " ideal " position.

And so we say farewell to Welfare Economics, as fifteen years ago we said farewell to metaphysics under the influence of the logical positivists: not without a tear, perhaps, but not without a sense of relief. For it *was* a boring subject.

C. A. R. CROSLAND.

HIGHER EDUCATION IN MINNESOTA. A REPORT BY THE MINNESOTA COMMISSION ON HIGHER EDUCATION. 419 pp. (*University of Minnesota Press*. $4.00. London: Geoffrey Cumberledge, 32*s*.)

This is an interesting book about a familiar theme—a copious plenty of students and a shortage of accommodation, with the situation aggravated by an excess of spontaneity during pre-war periods of expansion. In Minnesota the problems had been accumulating for a quarter of a century, and the stresses caused by

post-war demobilization brought them to a head. The President of the University sensed " the critical need for concerted action ", and the state legislature with his encouragement set up a Commission to survey the position and make recommendations. Here is the Survey, and here are the recommendations: an excellent piece of work, well-arranged, readable and attractively produced. How alike these accommodation problems are, and yet how different: so different that any central or federal planner would make a hash of them.

The procedure followed by the Commission is worth noting. It began its task by breaking up the problem into several parts, e.g., the student potential, the junior college aspect, liberal arts education, teacher education, and education in the University of Minnesota. Two or three members addressed themselves to each of the various branches of the enquiry, and the survey concludes with a series of recommendations, both short-term and long-range. The chapter on " Long-range Goals " is a joint effort by the President of the University and the Commissioner of Education for the state department.

The Survey opens appropriately with the chapters on " the setting of higher education " in Minnesota, which brings out effectively the reasons for the characteristics of the increased demand for college education. The factors, as one might expect, are complex and difficult to analyse; but the investigators succeed in drawing a fairly clear picture of growing professional and technical needs against a background of changing social and economic conditions. " Advances in business, industry, and agriculture are significantly interwoven with the evolving concept of living standards and cultural life." The chapter on teacher education contains much that will find a sympathetic response in this country: as, for example, " the need for quality is as great as the need for quantity". It urges strongly that nothing less than a four years' preparation should be a requirement for certification; " Minnesota cannot afford to go on throwing poorly prepared teachers into the profession."

The recommendations, both short-term and long-range, contain much of general interest. One outstanding conclusion is that although the flow of students keeps on increasing, yet " many capable young people " are still unable to seek a college education. A good supply of state scholarships is therefore advocated as a partial solution, but it is noted that finance is not the only obstacle.

There are also the barriers of distance, culture and "limited curriculums". The discussion of professional and technical education is rounded off with a notable emphasis upon the urgent need of developing personal qualities; and there is a strong suggestion that much advanced education is wasted because at the end maladjustments of personality prevent the graduate from leading a useful and satisfying life. Hence a demand for "an enlarging concept of what college education should include". It is claimed for the Report that "a practical down-to-earth view-point is held throughout", and there is certainly a wholesome absence of ambiguity. Thus we are left in no doubt as to what is meant by "an enlarging concept": college education, if it is to foster personality, must include social activities designed to develop mental and physical health, satisfying human relationships, appreciation of the arts and literature, and a sound philosophy of living. The Report is written in a spirit of refreshing optimism, concluding characteristically with the sanguine assertion that "there is no limit to man's improvement of himself".

W. O. LESTER SMITH.

THE TEACHING OF HISTORY. Issued by the Incorporated Association of Assistant Masters in Secondary Schools. (*Cambridge University Press*, 12*s.* 6*d.*)

Readers of this book may not be able to escape the impression that teachers of history are dull dogs. It is indeed a very dull book and its authors are schoolmasters specializing in history. But it is hard to believe that they are as dull as their book, which was deformed before birth by being the work of a committee. Has any good book ever been written—as distinct from translated—by a Committee? The I.A.A.M. promise volumes to follow in the teaching of classics, English, geography and mathematics: surely the committee in each of these subjects should invite a writer to attend its meetings and give him a free hand in the writing of the book?

In this book on history teaching the first two chapters—on Purpose and on the History Staff—are the worst; English teachers will enjoy putting them before their classes as examples of nebulous and platitudinous writing. When the committee gets down to brass tacks—on syllabus and subject-matter and on the methods of teaching—consciences are pricked and the party is much more

lively. It is good to see how often the members of the committee fail to reach agreement. They are divided on the value of economic and social history in the grammar school curriculum. They are unable to agree on the value of having teachers who are not trained as historians in charge of history teaching, even in the junior and middle schools. It is good, too, to find the authors refusing to lay down hard and fast recommendations : they know that nothing but a good teacher makes good teaching and that no rules can be laid down on technique. When they do give practical advice they give it tentatively and usually in the negative: for example, " Do not give more than one school year to the actual period on which candidates will be examined ", and " Dictate as few notes as possible —preferably none at all ".

University teachers will be sadly disappointed by the chapter on the Sixth Form. Here the authors are at their most platitudinous again (" The class can be helped by the analysis of a problem into its elements, or by the elucidation of a difficult topic." Fancy that !), and they seem to be completely out of touch with the best work that is being done with history specialists, particularly in public schools. In a section devoted to Scholarship Work they note that " A common criticism on the part of university teachers of the work in schools is that candidates in history seem to be over-prepared, and attach too much value to factual knowledge ". Their answer is that " this criticism perhaps underrates the difficulty of displaying historical imagination, powers of reflection, a faculty of judgment, or whatever else may be held to constitute ' alpha quality', without acquiring familiarity with the subject and a fair mastery of its factual content." No other criticisms of school history teaching on the part of university teachers are noticed.

J. HAMPDEN JACKSON.

ENGLISH POETRY. *By* LEONE VIVANTE, *with a preface by* T. S. ELIOT. (*Faber*, 21*s*.)

MODERN AMERICAN POETRY (FOCUS FIVE). *Edited by* B. RAJAN. (*Dobson*, 8*s*. 6*d*.)

Signor Vivante lays his cards on the table in his Introduction. He is a philosopher who takes an extreme idealist position, emphasizing a " principle of inward light," a " self-activity " which is not to be related to any concepts so mundane as matter or action or even

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ROUTLEDGE AND KEGAN PAUL

cause and effect. The expression "ultimate truth" occurs on page one. His interest in English poetry—and clearly it is an interest extraordinarily wide, intelligent and informed—derives from his seeing that poetry as one of the richest and highest expressions of this consciousness of a principle of inward light.

The standpoint from which Signor Vivante writes, coupled with the fact that he really *reads* poetry (*i.e.*, responds to the full richness and complexity of the organised words), leads, as one would expect, both to insights and distortions and perhaps the best way of giving in a short space an idea of the quality of the book is to give a reasonably typical example of each. Signor Vivante is at his best on Shelley. The following passage on Shelley's evocation of moonlight will bring out the positive value of his method.

> "In *Queen Mab* Shelley speaks of the 'polar night' where scarcely 'the hardiest herb'
>
> *Basks in the moonlight's ineffectual glow . . . .*
>
> Beauty—and, more generally, contemplative thought—for all its power, is incapable of extrinsic action, and also is, in a certain respect, unaffected by it. Hence the word 'ineffectual,' referring to moonlight and its wide transparencies, chiefly obtains its significance and its poetical value: the moonlit landscape seems to share in that immunity from extrinsic causality, or in that heterogeneity in respect of it, which lies deep in the nature of thought, and almost visibly in some of its highest forms."

I am not myself convinced that this sort of thing is entirely relevant even to a poem like *Queen Mab* but there is no doubt that such a consideration of the weight of the word "ineffectual" might well have led Matthew Arnold to think again.

In other contexts (and Signor Vivante's cavalier disregard of context, not to mention the overall quality of particular poets, is one of the most disconcerting aspects of his approach) the method is extremely misleading, as in the analysis (p. 48) of a part of a speech from *Love's Labour's Lost* (V, ii, 516):

> "'. . . . that does least know how.' *Means* and *ends* are not objectified; they do not exist as such; they are a living part, a perpetually original element in the play ('sport'). 'Die in the zeal . . .' The responses (the 'contents') 'die' in the very moment of our passionate longing for them (*cf.* 'in the zeal') which is present and alive in them. 'Their form confounded . . .'

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> A higher indeterminacy, the very fact that they are lost in their form (they 'perish') brings about perennially a more joyous moment, or form, undivided, unmixed, perfectly *one*."

In fact, in the context of the play, the Princess's words (she is referring to the charade of Holofernes and his friends) simply do not bear the weight of such an interpretation and to suggest that they do is to distort the play.

Mr. Eliot's Preface, besides commending Signor Vivante's qualities in words that can most kindly be described as ambiguous, contains a piquant expression of the hope that this book may " deter thoughtful readers from inquiring of a poet (if living) what he *meant* by any particular poem."

* * * *

Most of us are sufficiently ignorant of contemporary American poetry to be grateful to the editor of *Focus* for giving us a volume containing seven essays and a small anthology of poems previously unpublished in England. The essays include a witty and intelligent reconsideration of Imagism by Dr. Rajan and interesting reviews of the work of Allen Tate and John Crowe Ransom by Vivienne Koch. A short essay by David Daiches discusses two poets almost completely unknown this side of the Atlantic—John Malcolm Brinnin and Robert Fitzgerald—and there is a note contributed by Theodore Spencer on E. E. Cummings. *The World of Wallace Stevens*, by Louis L. Martz contains some interesting excerpts from the work of this witty, talented, sophisticated poet, but is otherwise to the uninitiated practically incomprehensible. Frederick Brantley's *The Achievement of Robert Penn Warren* is comprehensible in the sense that one can understand most of the words the critic uses.

If this volume gives a fair idea of the American poetic scene one can understand the popularity of the Hollywood film as a reaction (no doubt it would be more correct to see Hollywood as a cause rather than an effect). The preciosity and remoteness from what may not unfairly be called " life " of most of the poets involved is reflected in the tone of the critics. Apart from the essays of Dr. Rajan and Theodore Spencer (and even they are not unexceptionable) the collection is impregnated with the most disastrous kind of highbrowism. The general effect does not seem to me to be encouraging.

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A.J.C.

ANNUAL REPORT OF THE COMMONWEALTH FUND 1950

The Commonwealth Fund, founded (in 1918) "to do something for the welfare of mankind," this year mourns the loss of its founder, Mary Stillman Harkness. The 1950 Annual Report, following the policy of many years, gives an account of the expenditure of two million dollars "for the promotion and maintenance of health" largely in pioneer efforts for improving medical education and by experimental health services and research. The report makes most entertaining reading, particularly on the subject of medical education. Since 1910, when Flexner pleaded for a more scientific and academic training, the laboratory sciences on the one hand and specialist teaching on the other have come to dominate the student's outlook. "The last forty years have been devoted largely to shaping the logical process; now it is time to learn to use it in a broader context." This is, however, easier said than done. The curriculum, largely as a result of following Flexner's teaching to a successful conclusion, is today stuffed to bursting point; even small additions to introduce the wider picture of the patient, against his environment and as a member of a family and of the community, can now be introduced only at a risk of "breaking down the curriculum altogether." The refinement and expansion of scientific medicine has resulted not only in an overfilling of the curriculum but, even more serious, has split it into many fragments. The report considers that the half dozen medical sciences taken together

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at the hatefulness of the Kuomintang administration and his relief at its cessation greater. As a teacher he delighted in the knowledge that his pupils would not be disturbed and beaten in their University campus by armed bands in the small hours of the morning. As an economist he welcomed joyfully the replacement of a rotten and corrupt economy by a comparatively stable one. As a bibliophile he was fascinated by the opening of bookshops and the crowding of them by readers, for the Chinese bookshop is something of a library. All the writers agree in their admiration of the order, discipline, integrity, economic improvement brought by the Communists, and their austere manner of life and faithfulness to their principles.

For all agree that the new Government is Communist, Marxist, but none consider that it is under the heel of Russia, though Russia appears to be its truest friend.

The other authors write as observers, more ruminatingly and more critically, not having such immediate cause to speak of the replacement of evil by good. M. Guillain writes of Shanghai, where conditions could not be expected to be so good. For, owing to Nationalist blockade and bombing, the great port had lost much of its business, whereas Peking, having been made the capital, and Tientsin, its nearest port, were naturally buoyant. But M. Guillain's criticism goes beyond this: he attempts to find logic in the situation, discerns an iron hand in the velvet glove, and is troubled about the final upshot of an order imposed by a minority, however little ruthless its methods, on what he believes to be a very passive majority, for he declines to believe that the Chinese are individualists. There are divergent opinions on this, some who know China well believing that external passivity is an excellent way of concealing and preserving an individuality which has enabled China always to mould her new governments into something Chinese.

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terms with the Chinese, there is the necessity of recognizing that the Chinese believe that general principles must precede practical dealings. So long as the British without defining terms insist on being anti-Communist, the Chinese cannot believe that it is possible to do business with the British, however much that business would be to the mutual advantage of both. The British, characteristically, see no difficulty in the matter at all.

We could wish that the authors could go out again now and tell us of present conditions and say more of the future. For things have changed much since they were in China, and the need for observers of such high calibre is greater than before. But we are grateful for what they have given us in a book the quality and thought of which raise it above ephemeral literature, and which gives us documents bearing on the situation which are of permanent value.

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